DETERMINANTS OF RURAL HOUSEHOLD SAVING IN TANZANIA

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A THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY OF THE OPEN UNIVERSITY OF TANZANIA

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CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by the Senate of the open University of Tanzania, a thesis titled: **"Determinants of Rural Household Saving in Tanzania"** in fulfilment of the requirements for the degree of Doctor of Philosophy Economics of the Open University of Tanzania.

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Dr. Felician Mutasa

(Supervisor)

……

Date

COPYRGHT

DECLARATION

I, **Isaack Michael Mchumi**, do hereby declare that this thesis is my own original work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted or concurrently being submitted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgement has been made in the text.

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Signature

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Date

DEDICATION

To Michael (father), Melanie (mother), Renatha (wife), Henry (son), Doreen (daughter), Catherine (daughter) and active poor people fighting poverty.

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All errors are my own.

ABSTRACT

This study examines determinants of rural household saving in Tanzania with specific objectives to: (i) Identify saving motives of rural households; (ii) Assess switching of saving motives; (iii) Determine association between saving motives and demographic characteristics; and (iv) Ascertain temporal dimension of bequest distribution between *in-vivos transfers* and *intergenerational* transfers. Hypotheses of the study are: (i) saving motives of rural households is rational, and (ii) rural households are rigid in switching off saving motives. This is a cross-sectional study involving triangulation of data using structured interview of 810 respondents and 11 focus groups discussion. Descriptive analysis, econometric analysis (Logistic Regression) and inferential analysis (Chi-Square Test) were used in data analysis of descriptive statistics, correlation and testing of the study hypotheses respectively. The study reveals that majority (85.4 percent) in rural follow Life-Cycle Model; education (with 66.7 percent) is top priority saving motive; rural households do not easily switch off saving motives; education level with Wald statistic (2.066) (*p=0.151*) is the only independent variable that increases the *logit* of the dependent variable that means it increases the likelihood of a household to choose livelihood saving motives. Also, study results show that bequests are distributed to all children regardless of gender but depending on type of bequests both *in-vivos transfers* and *intergenerational transfers* exist. The study hypothesis that rural households chose rational saving motives is valid. Conclusion drawn from this study is that rural households save for rational course. The study offers some policy recommendations including saving incentives; provision for financial literacy to enhance saving knowledge; and increase rural outreach of inclusive financial services. Enhancing financial and insurance markets is imperative for rural households to save for ventures capable of accelerating poverty reduction.

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LIST OF ABBREVIATIONS AND ACRONYMS

BOT	Bank of Tanzania
BTC	Belgian Technical Cooperation
CBA	Community Bank Association
CES	Consumer Expenditure Survey
FDI	Foreign Direct Investment
FSDT	Financial Sector Deepening Trust
GDP	Gross Domestic Product
GLM	Generalized Linear Model
HBS	Household Budget Survey
HTTP	Hyper Text Transfer Protocol
IFAD	International Fund for Agricultural Development
IRAs	Individual Retirement Accounts
LCH	Life-Cycle Hypothesis
MDG	Millenium Development Goals
MFI	Micro Financial Institutions
MLE	Maximum Likelihood Estimators
MSMEs	Micro Small and Medium Enterprises
NBER	National Bureau of Economic Research
NBS	National Bureau of Statistics
OECD	Organization for Economic Cooperation & Development
OLS	Ordinary Least Squares
PIH	Permanent Income Hypothesis

PILCH	Permanent Income Life-Cycle Hypothesis
PPP	Purchase Power Parity
SACCOS	Saving and Credit Cooperative Societies
SAP	Structural Adjustment Programmes
SCCULT	Saving & Credit Cooperative Union League of Tanzania
SPSS	Statistical Package for Social Sciences
ROSCAs	Rotating Saving and Credit Associations
RTCs	Regional Trading Companies
RUSACCOS	Rural Saving Credit & Cooperative Societies
TAMFI	Association for Micro Financial Institutions
TIC	Tanzania Investment Centre
TZS	Tanzanian Shillings
UK	United Kingdom
URT	United Republic of Tanzania
USA	United States of America
USD	United States Dollar
VICOBAs	Village Community Banks
VSLAs	Village Saving and Loans Associations
WWW	World Wide Web

CHAPTER ONE

INTRODUCTION

1.1 General Introduction

"Saving means different things to different people. To some it means putting money in the bank. To others it means buying stocks or contributing to a pension plan. But to economists, saving means only one thing – consuming less in the present in order to consume more in the future."

-Laurence J. Kotlikoff (1988)-

Saving behaviour is an old phenomenon. For example, the books of Genesis chapter 41 and the Gospel of Saint Mathew chapter 25 in the Holy Bible have scriptures highlighting the subject of saving over two thousand years ago. As such people including the poor save for a variety of reasons most of which are aimed at risk management and risk coping. Dercon (1996) and Ravi (2006) underscored reasons for saving by poor households in two categories: 1) *ex-ante* protection against risk and 2) *ex-post* management of risk and that in the relative absence of complete credit and insurance markets rural households save to mitigate and coping with risks associated with income uncertainty.

Other studies assert that most poor rural households in less developed countries do not have ready access to saving facilities in banks or other formal financial institutions. Instead, they use alternative, informal vehicles for their saving, such as livestock, gold and other precious metals, jewellery, and housing materials or other stock of physical goods. They also maintain cash at home, or may deposit savings

with a friend, family members, or moneylender. Or they may participate in rotating savings and credit associations with trusted family members or neighbours (Rutherford, 2000; FSDT, 2006 and Nga, 2007). On whether poor save or not, the study by Rutherford (2000) affirms that there are considerable amount of researches disapprove the commonly believed view that many rural households in less developed countries are too poor to save. Saving by rural households has been confirmed by many empirical studies beyond doubt including those done in Africa like works of Chowa (2012); Mirach and Hailu (2014); Teshome *et al.* (2013); Precious and Asrat (2014); and Nigus (2015).

Another studies confirm own saving is the most important factor for a country's investment. According to Attanazio and Szekely (2000) saving is an alternative means to accumulate assets in the absence of credit and insurance markets, the capacity to save becomes one of the main vehicles of social mobility and of enhancing future income-earning possibilities. Horioka (1990), Wakabayashi and Mackellar (1999); Kitamura *et al.* (2001); and Upender and Reddy (2007) their empirical studies expound household saving contributes a lion's share of gross saving in the biggest economies such as China, Japan, USA, and India; these countries are among countries with higher household saving in the world.

Like many other subjects in economics, modern theories and models of saving and consumption originated in studies of saving behaviour conducted in western countries, developed countries, and market economies (De Nardi *et al.,* 2009). Among well-known models of saving in this context are the Absolute-Income Hypothesis (AIH) of Keynes; Permanent-Income Hypothesis (PIH) of Friedman; and

the Life-Cycle Hypothesis (LCH) of Modigliani and Ando these theories are covered under literature review of this study. Horioka *et al* (2000) explain that an issue of critical importance for economists and policy makers alike is which model is more applicable in the real world. Since household saving is subject to both intrinsic and extrinsic factors of the household in question such as culture, economy, demographic characteristics, politics; therefore, there cannot be one model that fits all.

1.2 Background

Low and irregular household saving is among factors for a very low access to financial services in rural areas in Tanzania (FinScope, 2009). Tanzania[1], in last two decades in an effort to promote financial inclusion[2], has steadily developed policy, legal and regulatory environment for financial sector including rural finance. The overarching framework for financial services in Tanzania is the Rural Financial Services Strategy (RFSS).

The legal framework of financial sector in Tanzania is provided by key Acts like the Bank of Tanzania Act, 2006; The Banking and Financial Institutions Act (BAFIA), 2006; The Cooperative Societies Act, 2003; Capital Markets and Securities Act

[1] For the purpose of this study Tanzania means the United Republic of Tanzania (made of Tanzania mainland and Zanzibar).
Tanzania economy has for nearly last twenty years experienced: steady increase of the Gross Domestic Product (GDP), increased Foreign Direct Investments (FDI), decrease in inflation, growth of banking sector to more than 50 banking institutions with deposits being the major liability item accounting for 93.13 percent of total liabilities (BOT 2012). Despite Tanzania's steady and impressive economic growth over the past two decades and vast resource endowment the majority of Tanzanians especially in rural areas are living in poverty thus implying microeconomic-macroeconomic mismatch (RAW, 2012).

[2] In Tanzania financial inclusion is defined, by Bank of Tanzania Financial Inclusion Working Group (BOT-FIWG), as 'all Tanzanians regularly use financial tools and payment platforms to manage cash flows and mitigate shocks. These are delivered by formal providers through a range of appropriate services and infrastructure, with dignity and fairness'.

(CMSA), 1994; Insurance Act, 2009; and Social Security Act, 2008. In addition to the above Acts, there are regulations such as Microfinance Companies and Microcredit Activities Regulations, 2005; Financial Cooperative Societies Regulations, 2005; Saving and Credit Cooperative Societies (SACCOS) Regulations, 2005; Credit Reference Databank Regulations, 2012; Credit Reference Bureau Regulations, 2012; and Guidelines on Agent Banking for Banking Institutions, 2013.

Further regulators of the financial system in Tanzania are Bank of Tanzania (banking, credit reference system, and payments and settlement); Tanzania Insurance Regulatory Authority (insurance); Capital Markets and Securities Authority (securities); Social Security Regulatory Authority (pension); Cooperatives Commission formerly known as Registrar of Cooperatives (saving and credit cooperatives).

In Tanzania financial services in the rural areas are directly and indirectly provided by a range of institutions, which include formal institutions such as banks, pension and provident funds, insurance, capital market; semi-formal institutions such as microfinance NGOs, companies, and SACCOS; informal groups such as Rotating Saving and Credit Associations (ROSCAs), Village Saving and Loans Associations (VSLAs) , Village Community Banks (VICOBAs); and government programmes such as Small Enterprises Loan Facility (SELF), President Trust Funds (PTF), Export Guarantee Scheme, Agriculture Input Trust Fund (AGITF), Mwananchi Empowerment Funds and many others.

Tanzania, after financial liberalization in early 1990s, is characterized by a fast growing banking sector with increased deposits suggesting increase in private saving in the economy by firms and households[3]. However mainstream commercial banks have very limited outreach in rural areas. The average loan ticket size precludes many rural activities. Saving services in these banks are beyond the reach of poor households on account of high saving requirements and costs (Lwoga *et al*, 1999 and FSDT 2006).

The mainstream banks do not have the inclination to do retail banking in the rural areas on account of high transaction costs and perceived high risks. Community banks are either in share companies or cooperatives. Currently they offer bulk funds to groups and SACCOS apart from individual loans to farmers and small enterprises. The high equity requirements, stiff branch licensing norms, limiting loan portfolios through credit deposit ratio even on bulk funds, high collateral on loans and the insistence of professional staff audit in each branch are some of the restrictive regulatory norms that impede business expansion. The existing products do not fully suit the needs of rural households who in most cases look after financing agribusinesses and related value chains whereas most of the financial institutions consider agriculture a riskier investment. According to national financial inclusion

[3] Gross saving is government saving and private saving nexus whereas private saving comprises of saving by private firms and households or individuals. According to the World Bank indicators report of 2010 released in 2011, Tanzania national accounts had gross domestic savings of US$ 3,932,926,000 for 2010 making 16.85 percent GDP of the year (Gross domestic savings are calculated as GDP less final consumption expenditure (total consumption)) and gross savings of US$ 4,663,936,488.32 in 2010 (Gross savings are calculated as gross national income less total consumption, plus net transfers). Over the past 20 years, the value for gross domestic saving indicator has fluctuated between US$ 3,932,926,000 in 2010 and US$ 195,818,100 in 1993 whereas in 2008 gross domestic saving was 10.31 percent GDP.

framework (2013) fundamental barriers that limit the growth of financial inclusion in Tanzania include supply side barriers ranging from high interest rates, inappropriate services that do not meet demand-side needs, and high costs due to inefficiencies of service delivery. Demand side barriers are such as information asymmetry, irregular income patterns, and financial literacy.

Moreover Tanzania insurance industry is at an infant stage in terms of outreach with penetration ratio of below 5 percent and it dominates in urban areas. Insurance industry is growing comprising about 30 insurance companies supported by an intermediary force of insurance brokers (over 110), insurance agents (over 540), loss assessors and surveyors (over 50), and adjusters. However, Finscope (2009) reveals low insurance usage as formal insurance usage stood at 6.3 percent and informal insurance stood at 2 percent leaving 91.2 percent unserved. There are several pension and provident fund institutions that provide social security services like National Social Security Fund (NSSF), Parastatal Pension Fund (PPF), Public Service Pension Fund (PSPF), Local Authority Pension Fund (LAPF), Government Employees Provident Fund (GEPF), Zanzibar Social Security Fund (ZSSF), and National Health Insurance Fund (NHIF). Coverage, scope and adequacy of benefits by the pension and provident funds is generally small and only 6.5 percent and 3.5 percent of the labour force and total population respectively are enrolled (Kiiza, 2013).

The Household Budget Survey (HBS) in Tanzania is the main source of information on household economic activities, household income and expenditure, housing characteristics as well as asset ownership. According to NBS (2014) Household

consumption and expenditure is one of the major components of the Household Budget Surveys. HBS uses two different data collection tools namely (i) the individual diary that is kept by household members aged 5 years and above with diary kept for 28 days; and (ii) recording expenditure and consumption through recall method. Results of Household Budget Survey 2011/2012 show significant increase of 20.6 percent in rural household total consumption from previous HBS done in 2007 (average monthly household consumption in Tanzanian shillings 132,589 in 2007 to 272, 957 in 2012). Further, HBS records 23.6 percent business start-up capital in rural areas comes from own savings. The HBS result cements empirical findings that even poor in rural do save. Therefore individual's motive to save is the subject closely examined by this study.

Tanzania national gross saving as percent Gross National Income (GNI) as well as Gross Domestic Product (GDP) has steadily increased in the past two decades[4]. Using national accounts data the World Bank, Organisation for Economic Cooperation and Development (OECD) and International Monetary Fund (IMF) estimated national gross saving as percent GNI and GDP in year 2011 at 20.58 and 20.44 respectively. The highest value of gross national saving as percent gross national income over the past twenty years was 24.87 in 2010, while its lowest value was 3.72 in 1993.

Building up from national accounts data on gross domestic investment and from balance of payments-based data on foreign investment the gross national saving as

[4] Gross savings are the difference between gross national income and public and private consumption, plus net current transfers.

percent GDP in 2013 is estimated at 24.29 making Tanzania number 52 in world rankings. The world's average gross national saving as percent GDP value is 18.95 percent; Tanzania is 5.34 more than the average. The General government final consumption expenditure as percent GDP in Tanzania was reported at 17.58 in 2010[5] whereas the household final consumption expenditure as percent of GDP in Tanzania was reported at 65.58 in 2010, according to a World Bank report released in 2011[6].

The banking sector in Tanzania portrays increasing saving. According to the banking supervision annual report of 2011, the liability structure of banking sector increases steadily with customer deposits remains the major liability item accounting for 93.54 percent. Kiiza (2013) records increased saving *per capita*, in Tanzanian shillings, 193,020.26 in 2009 to 294,397.07 in 2012. Also Michael in 2008 found household saving pattern of micro, small and medium enterprises to be 20 percent of total household income.

The above discussion on overview of financial and insurance perspectives in Tanzania expounds credit and insurance markets situation. As presented by Rutherford in 2000, in the absence of functioning credit and insurance markets, households or individuals tend to save in order to cope or and manage risks. In this case, saving becomes pragmatic option to fulfil needs of financial liquidity. Also

[5] General government final consumption expenditure (formerly general government consumption) includes all government current expenditures for purchases of goods and services (including compensation of employees). It also includes most expenditures on national defense and security, but excludes government military expenditures that are part of government capital formation

[6] Household final consumption expenditure (formerly private consumption) is the market value of all goods and services, including durable products (such as cars, washing machines, and home computers), purchased by households. It excludes purchases of dwellings but includes imputed rent for owner-occupied dwellings. It also includes payments and fees to governments to obtain permits and licenses. Here, household consumption expenditure includes the expenditures of nonprofit institutions serving households, even when reported separately by the country. This item also includes any statistical discrepancy in the use of resources relative to the supply of resources.

saving fulfils precautionary aspects related to the social protection. Therefore, effective financial and insurance markets plays an important role for release savings from managing household risks to investments in livelihoods for improved household living standard and poverty reduction. Therefore, strong linkage exists between credit and insurance market and household or individual saving.

1.3 Problem Statement

What pushes or pulls rural people in Tanzania to save? Although research has shown saving by rural people in sub-Saharan Africa including Tanzania, little is known about the factors that influence saving and assets accumulation. Further, a number of studies on saving tend to assess the determinants of saving at macro-levels (global, national and regional) with few studies conducted at household level in rural.

There is evidence that per capita household saving is on increase alongside rural financial services growth in Tanzania. For example Kiiza (2013) reports about 3000 Rural Saving Credit and Cooperative Societies (RUSACCOS) in Tanzania with saving per capita increased to TZS 294,397 in 2012. As Dercon (1996) and Ravi (2006) underscored two main categories of reasons for saving by poor households namely: 1) *ex-ante* protection against risk and 2) *ex-post* management of risk that in the relative absence of complete credit and insurance markets rural households save to mitigate and coping with risks associated with income uncertainty. But given that household saving is subject to both intrinsic and extrinsic factors such as income, age, gender, occupation, education, family size, marital status, culture, geographical location, economy, politics e.t.c therefore, the reasons for rural household saving differ among countries and even within a country.

However, economic theory provides a number of motives which pull or push households to save including life cycle motives, permanent income motives, bequest motives, precautionary motives. Study by Dauner (2004) outlines a number of reasons and motives of household saving including (i) to decrease vulnerability to shocks i.e. income, health, death, etc; (ii) to accumulate lump sums; (iii) to cater for life-cycle needs i.e birth, wedding, death; (iv) to furnish for investment in human, physical and social capital; (v) to bequeath relatives and friends; and to obtain credit. Even if all the above saving motives could be found in every country still there may be variations among countries on importance placed on each motive by households. Furthermore, given that saving motives play different role on social and economic aspects of the household as some motives advance social attributes while other motives promote economic prospects; therefore the type of motives pursued by household has connotation on poverty reduction.

There is scant empirical studies with light touch of household saving motives in Tanzania such as works of Lwoga *et al*, (1999), Bollinger *et al* (1999), Kamuzora and Mkanta (2000), Lundberg *et al* (2003), FSDT (2006), Christiaensen *et al* (2006), Wolfe (2009), Kessy, *et al* (2011), Hussein and Kajiba (2011) and Green *et al* (2012). Incidentally, most of these studies also refer to the cardinal tenets which push or pull household in saving e.g. imperfect insurance and credit markets; life cycle and precautionary motives[7]. Apart from the fact that these studies briefly highlight saving motives, there is also methodological gap in terms of the type of data used (normally secondary data), sampling (with most of these studies done in urban),

[7] Assets accumulation inclusive as a proxy for saving

study units (government, corporations, and wealthy people receive more attention) and analytical methods (some studies applying linear models to analyse data which in most cases is qualitative or categorical).

Dercon (1996), Salam and Kulsum (2001), Horioka (2009) and others generally agree on a number of reasons for inadequate empirical studies on saving in developing countries to be (i) inadequate experts, (ii) lack of data, (iii) inadequate fund, (iv) poor transport and communication infrastructure, and (vi) less motivation and interest by researchers. As pointed out by Sherraden and McKernan (2010), the number of empirical studies examining saving behaviour of middle and upper income individuals is growing while low income households especially in rural areas receive little attention which is also a case in Tanzania.

Therefore, the researcher is complementing efforts to fill-up information gap on rural household saving motives by conducting this study deemed by the researcher as first study ever comprehensively examining diverse theories of saving using data from rural people in Tanzania. The focus of this study on the demand-side 'determinants of household saving' exploring motives for saving aims to fill-up information gap since the supply-side normally receive high attention by many studies looking at factors and level of saving e.g. marginal propensity to save.

1.4 Objectives of the Study

1.4.1 General Objective

The overall objective is to underscore the saving motives of rural households in Tanzania by examining the diverse theories of saving.

1.4.2 Specific Objectives

The specific objectives of the study are to:

(i) Identify saving motives of rural households in Tanzania;

(ii) Assess switching of saving motives;

(iii) Determine association between saving motives and demographic characteristics; and

(iv) Ascertain temporal dimension of bequest distribution between *in-vivos transfers* and *intergenerational transfers*[8]

1.5 Research Hypotheses

Hypotheses of this study are:

(i) Saving motives of rural households are rational

(ii) Rural households do not switch off saving motives

The study hypotheses are based on neoclassical economics of saving under the individual-oriented theories. Neoclassical economic theory assumes that individuals are rational beings who respond in predictable ways. Specifically, the hypotheses are based on the life-cycle hypothesis and permanent income hypothesis described under literature review part in this thesis.

1.6 Significance of the Study

The results of this study serve multiple purposes. Firstly, the study informs various stakeholders including educators, financial advisors, and policy makers who assist

[8] *In-vivos transfers* refer to bequests (inheritance) practically distributed before death whereas *intergenerational transfers refer* to bequests (inheritance) practically distributed after death.

households to save for homeownership, children's education, and retirement. Secondly, the focus of this study on rural household saving motives is one step towards increasing societal knowledge on saving motives and implication on the fight against poverty. Thirdly, the study provides information for evidence based policy recommendations to improve use of rural savings with the ultimate goal to reduce rural poverty. Fourthly, the study also contributes to the existing empirical literature on role of the rural households' saving motives and serves as reference for further studies. Fifth, output of this study provides information to enhance existing rural development policies. Lastly, the study contributes to poverty reduction through informed and evidence based decision making at multiple levels i.e. individual, household, government at both central and local levels.

1.7 Scope and Limitations of the Study

1.7.1 Scope of the Study

This study underscores saving motives of rural households in Tanzania based on theories of saving in three classes of perspectives of saving theories namely: 1) individual-oriented perspective; 2) sociological perspective; and institutional perspective. Chowa *et al.* (2012) report that examining and explaining determinants of saving and asset building have garnered attention from scholars across numerous disciplines. This study is limited to theories of saving in the three classes of perspectives. Further, as for the two wings of saving viz *supply-side* concerning saving pattern (rate or level of saving) and *demand-side* concerning reasons or motives of saving this particular study is limited to the latter wing which emphasizes the motives of saving by rural people in Tanzania.

1.7.2 Limitation of the Study

A number of limiting factors worth noting in this study are (i) large size of the country posed some logistics challenges, (ii) diverse socioeconomic profile of respondents had implication on the understanding of the subject under study, and (iii) challenge on willingness and availability of target respondents 'household heads or their representatives. Proper planning enhanced rapport and approach helped to countercheck the above limiting factors resulting into successful completion of the study.

1.8 Organisation of the Thesis

This thesis is organized into five chapters. These chapters have different roles to play in completing the set of this particular thesis. The chapters have the following as their main contents.

Chapter one sets the context of the study by; providing the background information; addressing the problem, and stressing the importance of this study. Specific research objectives and research hypotheses are found under this chapter.

Chapter two indicates the state of the art situation regarding the problem. This is presented as the literature review focusing on household saving behaviour. Theories and empirical studies from global to local level (Tanzania) are presented under this chapter. The chapter further presents conceptual framework of this study.

Chapter three presents a discussion on methodological concepts and practices as applied in this study for the purpose of information gathering and processing. The

purpose of this chapter is to bridge the theoretical issues established in previous chapter and research issues arising from the conduct of the research.

Chapter four presents narrative component of the facts from the ground in terms of results (data) from the fieldwork. This constitutes data analysis, data presentation and data interpretations are set in the light of the study objectives and study hypotheses.

Chapter five discusses major findings of the study; draws conclusion, policy recommendations and suggested areas for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents an overview of the theories that explain the determinants of household saving. Also the chapter reviews pertinent empirical studies on determinants of household saving conducted at different levels i.e. global, regional and national.

2.2 Definition of Saving

Saving is broadly defined in many terms with some disagreement about what counts as saving. However, economic definition of saving has been adopted since this study focuses on saving motives in economics perspective.

According to Academic's Dictionary of Economics savings is after-tax disposable income of the household sector that is not used for consumption expenditures. In general terms, saving is the use of income to purchase legal claims through financial markets rather than the direct purchase of physical goods and services. In the macroeconomic world modelled by the circular flow, saving is the diversion of household income away from consumption and into the financial markets. In this model, saving is a primary source of funds used for business investment expenditures for capital goods. Saving is also used to finance government expenditures (Krishnamurthy, 2011). According to Kotlikoff (1988) saving is postponed consumption meaning that income is not immediately consumed rather it is kept for a period of time for the purpose of consuming it in the future. Therefore, as regard to

the temporal dimension on period of time or duration, savings can be consumed in short term, medium term and long term.

The importance of household saving

There are myriad needs by households of which some require immediate satisfaction (and this can be done from current income), but other needs will occur in the uncertain future, some of which are planned and some unforeseen. To satisfy this future needs money need to be saved to be available when needed. This means that households must sacrifice current consumption to be able to consume in the future.

The various reasons for which households need funds in future are such as: durable consumer goods, a car, fees, house, healthcare; education mainly receive high priority in most of households. Introduction of cost sharing in social services including higher learning institutions resulting into household contribution to costs borne by students enrolled to colleges and universities prompt for use of household savings especially to poor families. Acquiring an own home is another high household priority. Where financial markets are not well established especially in rural areas in developing countries, to have money to build a house, households need to save.

Poor households are never in homogenous situations. Some ordinary households enjoy the luxury of permanent jobs that come with automatic saving mechanisms such as medical insurance and retirement schemes, some households own successful enterprises that ensure adequate income to support saving for necessary and unnecessary future needs. Poor households mostly cannot even afford for very

necessary current consumer goods and services. Yet they also need to save for future needs. These needs varies from every day needs such as foods and transport and often but unforeseen, such as funeral costs. Often the breadwinners of these households work sporadically and need to save for when they are jobless. For them, saving is imperative. Poor households may want to free themselves from poverty and need to save to enable them to start some form of enterprise.

2.3 Theories of Household Saving

Similar to Chowa *et al.* (2012) discussion of the underlying theories of saving is done by classifying existing theories in these perspectives: 1) an individual oriented perspective; 2) a social stratification perspective; and 3) an institutional perspective.

(a) Individual-oriented perspectives

Theories that make individual perspective in this study include neoclassical economics, economic psychology and behavioural economics.

Neoclassical Economic Theory: Neoclassical economic theory assumes that individuals are rational beings who respond in predictable ways to changes incentives[9]. From this perspective, there are two broad determinants of individual behaviour: opportunities (or constraints) and individual preferences (Pollak, 1998). The starting points for much neoclassical economic research on saving and asset accumulation have been the Life Cycle Hypothesis (LCH) (Ando and Modigliani 1963; Modigliani and Ando 1957; Modigliani and Brumberg 1954) and the Permanent Income Hypothesis (PIH) (Friedman 1957). Other models of saving

developed by economists as an extension of LCH and PIH economists include buffer-stock models and augmented life cycle models which try to incorporate bequest motives and precautionary motives. Other theories explaining saving are consumption theories such as absolute income theory and relative income theory of Keynes and Dussernberry.

Economic psychology: unlike neoclassical economic theory this perspective do not assume that people behave in a rational manner and have perfect knowledge. The perspective assumes that personality characteristics and attitudinal variables affect saving and asset accumulation. Jevons (1965) and Marshal (1961) although they approve neoclassical economic they also believed that there are various psychological characteristic that influence the temptation to spend and forego saving. As such there are some established psychological models on savings behaviour by psychologists including those of Katona (1975); and Olander and Seipel (1970). For example Katona's theory of saving (1975) is partly determined by income and partly by some independent intervening factors. Two important factors are the ability to save and willingness to save. Ability to save refers to those who can save, whereas as willingness to save is related to the degree of optimism and pessimism of economic conditions (Katona, 1975). This study also confirms ability and willingness factor since some individuals although they were not saving because of poverty but they were willing to save when they get income.

Psychological and sociological theories of saving consider additional determinants of saving and asset accumulation, including personality characteristics, motives, aspirations, expectations, and peer and family influences. Some of the propositions

emphasize the effects of relatively stable personality characteristics on asset building. Other psychological and sociological propositions assume that saving-related preferences and aspirations are not fixed and in fact seek to explain how motives, aspirations, and expectations are shaped. The propositions that emphasize relative stable personality characteristics typically come from psychology.

For example, psychologists have examined the effects of thrift, conscientiousness, emotional stability, autonomy, extraversion, agreeableness, inflexibility, and tough-mindedness on saving. The propositions that seek to explain how motives, aspirations, expectations, and even preferences are shaped come from both sociology and psychology.

Behavioural economics: this perspective does not assume that people are rational and all-knowing. It integrates insights from psychology and economics. Behavioural economics qualifies some of the unrealistic assumptions of standard economic models of human behaviour, such as unbounded rationality, unbounded will power, an unbounded selfishness (Shefrin and Thaler, 1988); Aisle, 1975; Angeletos, *et al*., 2001; Laibson, 1997; Mullainathan and Thaler, 2000; Shefrin and Thaler, 1998; Thaler 1981) explain that behavioural economics decisions are influenced by common human characteristics such as self-control and ability to delay gratification, mental accounting, use of rule-of-thumb, default options, and hyperbolic discounting. However, given scant studies in developing countries little is known about the explanatory powers of these factors on saving behaviour of poor rural income households.

Behavioural theorists have identified a number of common human characteristics that shape financial behaviour, including lack of self-control (people tend to place too much weight on current consumption relative to future consumption); limited cognitive abilities (people do not always learn from their mistakes, and people tend to be overwhelmed by too many choices); inertia (people tend to continue doing what they are currently doing); the tendency to interpret default options as advice; and the tendency to use mental accounting techniques.

(b) Sociological perspective

According to Gina *et al* (2012) this perspective entails social stratification theory referring essentially to a distribution of power in society. The divisions in society, based on economically conditioned power, are called classes, which refer to any group of people that is found in the same economic situation (D'Souza, 1981; Weber, 1967). Class and social stratification have strengths in explaining the factors affecting savings behaviour among low-income households because class relates to the possession (or lack) of resources (economic or otherwise) necessary for individuals and households to save and build up their assets. Individuals and families in lower economic classes have limited access to information, resources, and services that can help them save and accumulate assets over time.

This study also found some respondents were saving to invest in assets accumulation like bicycle and motorcycles in order to acquire higher *status-qou* in their families and community. Occupation and education are among important class related factors which are explained by sociological perspectives.

(c) Institutional perspective

Institutional theory asserts that individuals and households are faced with institutional level factors that make it impossible or difficult to save. The main hypothesis of institutional theory assumes that low-income individuals and families are unable to save and accumulate assets primarily because they do not have the same institutional opportunities that higher income individuals and households receive (Beverly and Sherraden, 1999; Sherraden, 1991). Institutions in the institutional theory refer to purposefully-created policies, programs, products, and services that shape opportunities, constraints and consequences. Seven institutional-level dimensions have been hypothesized to influence saving and assets accumulation.

These dimensions are access, information, incentives, facilitation, expectations, restrictions, and security (Beverly and Sherraden *et al*., 1999; Beverly *et.al*., 2008; Sherraden and Barr, 2005; Sherraden *et al*., 2003). This study found institutional aspect affecting household saving as some respondents of this study were also experiencing financial exclusion given conditions challenging financial services provision in rural areas.

Explanation of dominant theories in saving

In their current stages of development, none of the existing theories provide a suitable explanation for saving and asset accumulation in low-income households. However, neoclassical economic models tend to be specified clearly and tested rigorously, and there is extensive body of scholarly work. Therefore, this study will limit to neoclassic economic theory highlighting Keynesian's view and discussion of

the two major hypotheses on saving and asset accumulation namely the Life Cycle Hypothesis (LCH) and the Permanent Income Hypothesis (PIH).

2.3.1 Keynesian Theories on Saving

The absolute income hypothesis of Keynes is the basic theory on determinants of saving which laid down foundation of the extensive theoretical and empirical studies on household saving behaviour. According to the absolute income hypothesis saving is considered as a luxury good rather than necessity whereby the two constitute the traditional theory of demand. Therefore, Keynes theory underscored bequest in terms of real estate as the basic saving motives of the rich. Keynes as referred to by Modigliani (1986) identifies eight motives of saving, which are:

1. to build up a reserve against unforeseen contingencies;
2. to provide for an anticipated future relationship between the income and the needs of the individual;
3. to receive interest and capital appreciation
4. to enjoy for gradually increasing level of expenditure;
5. to enjoy a sense of independence and the power to do things, though without a clear idea or definite intention of specific action;
6. to secure a *masse de manoeuvre* to carry out speculative or business projects;
7. to bequeath a fortune;
8. to satisfy pure greed, i.e., unreasonable but insistent inhibitions against acts of expenditure as such (*avarice*).

Keynes explained that income was the most systematic determinant of individual (household) saving. Individuals with a low income cannot save. That is why the

Keynesian saving function in its most common form is linear with a constant marginal propensity to save (MPS)[10]

Therefore: $S=\alpha 0 + \alpha 1YP$……..(i)

Where:

S= gross domestic saving

YP=gross national product and

$\alpha 1$=constant marginal propensity to save.

It is assumed that $\alpha 0<0$, and $0<\alpha 1<1$, so that as the level of income rises, the average propensity to save will also increase (Mikesell and Zinser, 1973). It is important to note that equation (i) is the most popular version of the absolute income hypothesis. Also, Keynes, according to Modigliani (1986) predicted that the average propensity to save of the average household would increase when they reach a higher income level. This contribution was an important source of inspiration for both the permanent income and life-cycle hypothesis.

It is quite remarkable, however, that Browning and Lusardi (1996) in their research on household saving (more than half a century later, only added one more motive, i.e. the 'down payment motive'. They remarked that these motives are important to consider for empirical estimation of saving functions. But this shows how accurate Keynes was in his observation of patterns of household saving.

[10] The marginal propensity to save (MPS) is the increase in consumption with a unit increase in income

2.3.2 Permanent-Income Hypothesis

Following on this innovative work by Keynes, Friedman (1957) postulated the Permanent-Income Hypothesis (PIH)[11]

A. The theory

This hypothesis differentiates between permanent and transitory components of income as determinants of household saving.

- ***Permanent income*** is defined in terms of the long-term income expectations over a planned period and with a constant rate of consumption maintained over the lifetime given the present level of wealth (Muradoglu and Taskin, 1996). According to Samuelson and Nordhaus (1995) permanent income is the level of income that households receive when temporary influences such as the weather or windfall gain or loss are removed.
- ***Transitory income*** is the difference between actual and permanent income. Individuals are assumed not to consume from transitory income, therefore the marginal propensity to save from this income is one.

According to Rousse (1972) income and wealth was differentiated by Friedman asserting that the two were distinct. On one hand Friedman called income or permanent income as earnings from saleable assets, skills, in relation to the occupation and geographical location and so on of the individual household. On the other hand wealth was considered by Friedman as the source of permanent income

[11] The abbreviation PIH will be used in the rest of the report when referring to the Permanent Income Hypothesis.

made of human and non-human wealth. In conclusion Friedman says transitory income is the main source of difference between income and wealth concepts. In his explanation Modigliani (1986) conclude that in a short run like a year saving can be converted or utilized depending on the extent income changes from the average. Friedman's PIH was the first major breakthrough in the research on the saving behaviour of households. Mikesell and Zinse (2001), claim that 'Friedman's PIH is the starting point for a variety of specifications of the saving-income relationship'.

In its most simple form the linier equation is:

$$St=\alpha 0 + \alpha 1YPt + \alpha 2YTt \quad \text{(ii)}$$

Where:

St=gross domestic saving in year t

$\alpha 1$=constant marginal propensity to save

YPt=permanent income and

YTt=transitory income in year t.

Equation (ii) is the simplest specification of the permanent income hypothesis. Friedman explained that at $\alpha 1$, the individual consume nearly no transitory income where marginal propensity to save on this transitory income will be unity (MPSt=1). The size of marginal propensities to save out of the permanent income and the transitory income as well as the effect of initial wealth on saving is relevant for empirical testing of the PIH. Nevertheless, changes in transitory income will

automatically result in changes in the level of saving. The argument is that transitory income cannot generally be anticipated because it's a result of occurrences such as an inheritance (Rousseas, 1972). Furthermore, Friedman (1957) raised the issue of income inequality and saving. He argued that a reduction in the inequality of the permanent income status is neutral with respect to the saving ratio (*ceteris paribus*). It is the inequality in the transitory income components, which means uncertainty about income prospects, which, in turn, increases the need to save for emergencies as postulated by Mikesell and Zinser (1973).

B. Critical evaluation

The Permanent Income Hypothesis of Freidman advanced the literature on household saving behaviour with significant support of empirical findings. Kelley and Williamson (1968) found positive relationship between wealth and income whereby the marginal propensity to save tends to increase in relation to wealth and income. Further, according to Gupta (1970) the marginal propensity to save in lower level of development exhibits increasing function of income.

The difference between disposable income and consumption was redefined by Campbell in 1987. Using Freidman theory Campbell delineate disposable income to constitute earnings and assets income. Findings of Carroll and Summers in 1991 show negative saving against anticipated income growth so that permanent income hypothesis is consistent with household saving. They give example of residents of Thailand, Indonesia, Japan, Korea, Hong Kong and Taiwan who would decrease saving due to continuous growth of their household incomes. Following global economic downturn in 1970s which caused shrinking household income growth

resulted into the increase in household saving as an alternative to smoothing future consumption (Viard, 1993). Therefore above discussion cements the fact that income is one of the determinants of household saving. When income increases saving increases as well but when income is increasing at increase rate in a long run it reaches a point whereby household tends to decrease saving.

Modigliani in 1986 underscored limitations underlying permanent income hypothesis to be the systematic variation in income and needs. For example Permanent income hypothesis did not consider changes happen over the life cycle of household including retirement and changes in family size. Also Modigliani argues that other shortfall of the permanent income hypothesis is the omission of bequest motives since households also do save to bequeath heirs. There are a number of empirical studies on permanent income hypothesis that show divergence in both developing and industrialized countries. For example Betancourt (1971) for Chile, Musgrove (1978) for Latin America and Bhalla (1980) for India conducted empirical studies on household saving whereby they found that saving would increase with permanent income as conventionally defined, which means that the elasticity of consumption with respect to measured consumption is less than unity.

2.3.3 Life-Cycle Hypothesis

The Life-Cycle Theory of saving behaviour was first formalized by Franco Modigliani and Richard Brumberg in 1954 and Albert Ando and Modigliani in 1963. It resulted in an important post-Keynesian debate that contributed much to the theorizing about saving.

A. Original formulation

Originally the Life-Cycle Hypothesis (LCH) was formulated as theory of individual saving behaviour. Therefore individual saving behaviour was analysed to follow lifetime consumption of individuals in relation to savings accumulation during productivity period in order to maintain consumption levels during retirement. This theory assumes:

(i) That there are opportunities, in which income is constant until retirement and zero with zero interest rates thereafter

(ii) Tastes or preferences to be constant over life, with no bequests (no children)

The simplified assumptions of this model are illustrated in Figure 2.1. It is referred to as the basic or 'stripped-down' version of the life-cycle model (Modigliani, 1986). The main motive or reason to save here is for retirement and to acquire wealth.

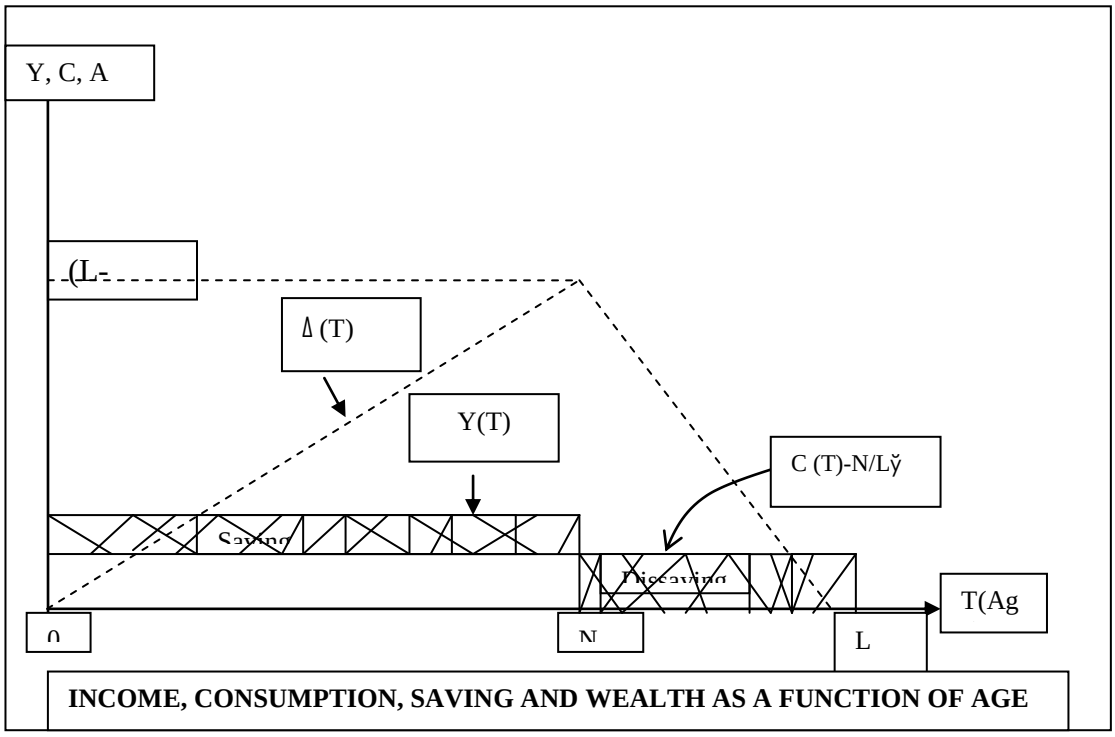

Figure 2.1: Basic Model of the Life-Cycle Path of Saving and Wealth

Source: Modigliani (1986)

Figure 2.1 presents a graphical illustration of the original LCH. It represents the age distribution of income, consumption, saving and wealth (Y, C, A), up to a constant number of people in each age interval (T). [(L-N) N/L]Y is the ratio of income-age at equilibrium levels of age N.C (T)-[N/L]ў is the consumption ratio at equilibrium where dissaving occurs. N and L indicate the age intervals. ∆ (T) is the upward sloping curve of the life-cycle of saving. Y (T) represents the age at which people save. The retirement phase follows the earnings span and consumption smoothing causes to a humped-shaped age path of wealth holding. Harrod (1948) called it 'hump-saving'. Aggregated wealth/income ratio (W/R) is given by the ratio of the total wealth held at each age (in the graph it is the area under the wealth path to the area under the income path). This can only be true in a stationary economy. According to Modigliani the retirement plan follows the earnings span, consumption smoothing leads to a humped-shaped age path of wealth.

B. Later refinements of the model

Modigliani emphasized viewpoint of Life-Cycle Hypothesis through a number of later scholarly works. The Life-Cycle model postulated that individuals take into consideration of future lifetimes while saving from current income earned. Individuals tend to factor in status of life in future at retirement age thus influencing saving of current income. In 1986 Modigliani found that most empirical evidence did not include involuntary saving related to social security including pension schemes. Given compulsory saving through pension scheme this may result into decreases saving of disposable income by individuals so long as these individuals are convinced that the pension scheme would help to take care of consumption in future

upon their retirement. Modigliani always explained that the LCH is a theory about individual and aggregate wealth, and that individual wealth and saving behave completely differently than the corresponding aggregate[12]

LCH maintains that young people mostly start with low pay employments thus they earn little money which hardly can suffice basic consumption. Middle aged people usually earn high income since they have required experience and skills to get good paying jobs and also they may have been promoted to senior positions into their organisations. The young people would have less saving due to little income earned while middle aged people would save substantial amount from their disposable income. Once aged people approaches retirement tends to reduce saving because they have accumulated savings which they think it is enough to take them through retirement period until death. They see no reasons to maintain high saving while they remain whith short life before their death. In other cases, the individual must dissave in order to maintain his consumption close to his/her needs, until death (Modigliani, 1986). Thus, the aggregate saving ratio will tend to vary for young, the middle-aged and the elderly. *Ceteris paribus*, the higher the saving ratio by the middle-aged households, the higher will the aggregate saving ratio be in any given country.

Years later, Masson (1988) and Deaton (1999) illustrated the life-cycle model in simple terms as shown in Figure 2.2.

[12] This is consistent with what was later referred to as 'the paradox of thrift'. See Mohr and Fourie (2004)

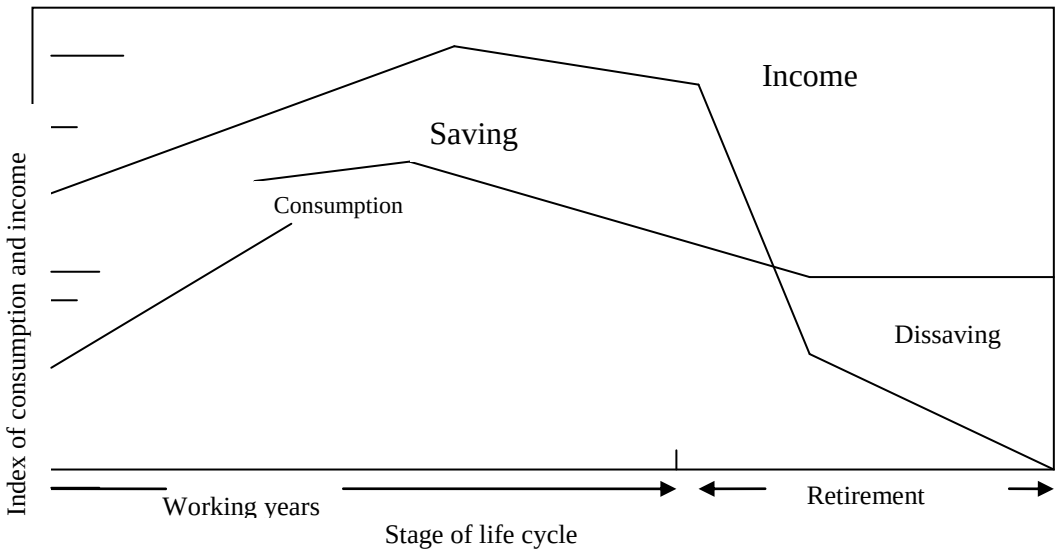

Figure 2.2: Consumption and Income Age Profiles and Corresponding Saving Over the Household Life-Cycle

Source: Masson (1988)

In this graph, it is assumed that consumption and earnings vary over household's life-cycle so that income is not equal to the desired expenditure at any point in time in a perfect market. Figure 2.2 also illustrates the saving behaviour of an individual during his lifetime. Saving increases as income increases reach maturity and start to decline after a long period of working years. But, according to the life-cycle saving theory, there are means by which households can shift income from time to time so that their consumption could be fulfilled (Zeldes, 1989; Deaton, 1989; and Attanasio and Browning, 1995). That is why during times of high earnings relative to desired consumption, households save and during periods of low earnings relative to high consumption, households dissave. Therefore, incomes rise over the life-cycle until retirement. Retirement is therefore the main saving motive.

One of the implications arising from the LCH is that the higher the old age dependency ratio, the lower will be aggregate household saving, as these people

disssave during retirement. Thus, aggregate saving at any point in time will depend on the saving ratio of working households as compared to the saving ratio of retired households.

C. Schematic version of Life-Cycle model

A more schematic version than the basic or simple stripped-down model illustrated in Figure 2.3 in this figure, while the hump in consumption reflects the changing demographic composition of the households as children are born, grow up and leave; the hump earnings reflects the standard-age profile. It is assumed that consumption drops at retirement, not because of the decrease in income, but because of other reasons such as expenses associated with work (e.g. transportation, working clothes, meals, etc.). These types of expenses are apparent in the developed countries such as United Kingdom and the U.S.A (Deaton, 1999).

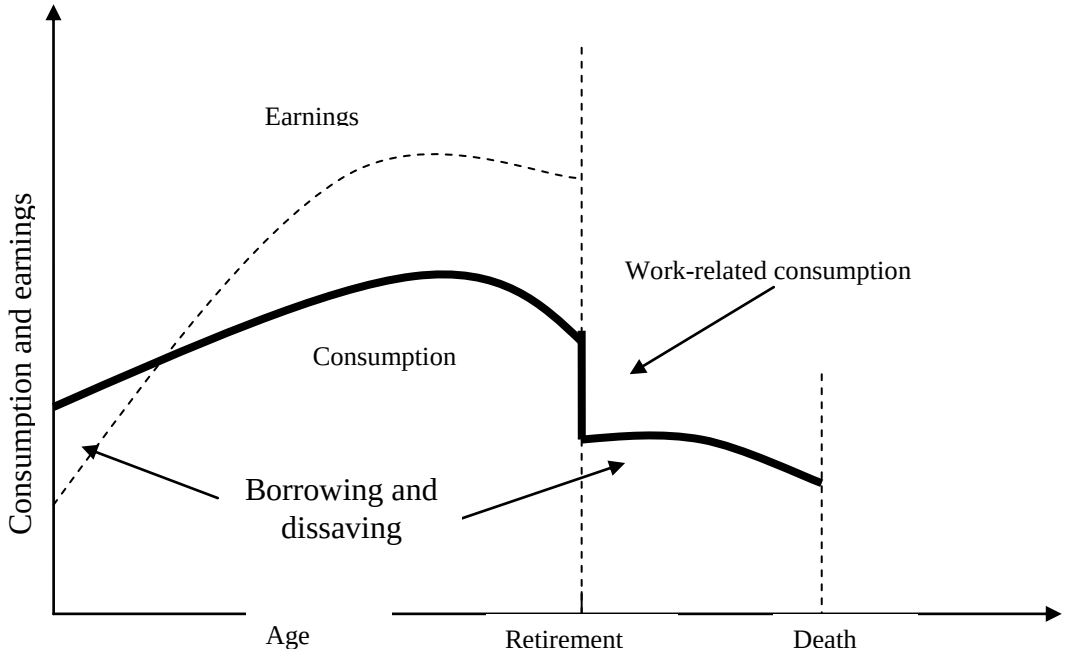

Figure 2.3: Schematic Lifecycle Profiles of Earnings and Consumption
Source: Deaton (1999)

Figure 2.3 illustrates a typical life-cycle of saving where individual want to borrow at the beginning of their career, save at the middle-ages when they are at the peak of their earnings, and decrease their saving (dissave) after retirement. If one can measure the average age of each shilling saved and each shilling borrowed or dissaved, then as illustrated, the average age of the shilling saved is less that the average aged of the shilling dissaved. This can only happen with assumption of *ceteris paribus.*

C. The difference between the two theories

Life-Cycle Hypothesis and Permanent Income Hypothesis were developed and published in the late fifties. The main difference between these two theories lies in the length of the planning period or time horizon.

Time horizon: the permanent income hypothesis has an infinite time horizon, while the life-cycle hypothesis is a finite horizon model (Attanasio, 1999). For Friedman, this period is infinite, meaning that people save not only for themselves but also for their descendants or bequests. In the Modigliani-Brumberg version of the theory, the planning period is finite.

Both theories use a concept of long-term income. The definition of long-term income differs from one theory to another, but it is related to the household's expected income over a long period of time. According to the LCH, the long-term income is the income that the household expects to earn over its life-time (also called life-cycle income). The assumption of a LCH is that every household has a view of its life-time income. The expected income is converted into a single figure for annual permanent.

In the LC theory this permanent income is maximum amount that households could spend on consumption and save each year indefinitely without accumulating debt that are passed on to future generations (Lipsey, 1990).

In some cases, PIH and LCH share similar predictions about individual saving behaviour, for instance, in respect of transitory income shocks. But many implications of the LCH about individual and aggregate saving ratios are unique, and differ sharply from the infinite horizon version of the model. The distinction between the LCH and the PIH models is more evident when one looks at the aggregate implications. Indeed, the PIH clarified the few 'aggregate' predictions.

2.4 Critical Evaluation and Empirical Findings

- Lusardi (1999) emphasizes that the LCH model provides the main framework to study the accumulation of saving and wealth. The contribution lies precisely in the adaptation of this theory to the aggregate saving of households both in a stationary as well as dynamic context. Also, Deaton (1992) and Modigliani (1993) commented, '…the model predicts a relationship between saving ratios and income growth that is close to that shown in respect of the cross-country evidence.' Another study by the World Bank (1993) also found a high correlation between income growth and saving.
- Despite empirical support, many economists noted limitations. For example, Wolff (1981) divided families into three classes: the capitalists, the primary working class and the secondary work force. He found that of life cycle wealth only relates to the primary working class takes. Katona (1960, 1980) stressed that psychological aspects of individual economic behaviour were relevant to the

saving motive. He also argued that income is positively related to the saving motive. Shefrin and Thaler (1988) analyzed a behavioural life cycle and claimed that their model is a more general model whereas the life-cycle model represents only a special case.

- According to Mikesell and Zinser (1973), Weil (1994) and Attanasio *et al* (1999) more evidence on the famous life-cycle of saving showed that some individuals continued to save even at old age. While Carrol (1997) argues that 'the typical household's saving is better described by a 'buffer stock' version than by the traditional version of the PIH/LCH model. Caschell (2005) claims that to 'the extent that social security involves a transfer of income from potentially high savers to those who save less'.

- Another criticism is that it fails to predict accurately. For example, no use is made for representative agents. For example, in practice the age profiles of consumption and income usually have shapes that are much more realistic. Consequently, there are not enough humps saving in the data to account for aggregate wealth in the economy, with the implication that a substantial amount of national wealth should be attributed to bequests (see Kotlikoff and Summers, 1981; Modigliani, 1988; Kotlikoff, 1988 and Deaton, 1997).

However, Jappeli (2005) claims: 'the beauty of LCH is that aggregation is not nuisance, but part of the model itself, delivering some of the most interesting results'. However, Attanasio and De Leire (1994), Attanasio (1999) and Browning and

Crossley (2001) explain: the life cycle model provides a general framework that cannot include every aspect that affects the saving behaviour of low-income households.

2.4.1 Other Determinants of Household Saving Behaviour

Despite the applicability of the above traditional theories on household saving behaviour, researchers focus on typical households in developed countries, whilst in developing countries; the majority of households are poor. Masson *et al.* (1998) also states that the determinants of household saving in rich countries are different from those in developing countries.

Attanasio and Weber (1985), Deaton (1991) and Gersovitz (1998), identify several reasons why the saving behaviour of households in developing countries may diverge from the textbook case: (i) households are dynastic that survive beyond individual members; (ii) households are indecomposable units and saving are decided at the household rather than individual level; (iii) households have lower and more uncertain income; (iv) borrowing constraints may be much more pervasive; and (v) saving provide a buffer for an uncertain and unpredictable income rather than intertemporal consumption smoothing".

A survey by Browning and Lusardi in 1996 emphasized the fact that it is not easy to establish the motives of saving for any society. This section reviews some of the most important additional factors that were found to be relevant in understanding household saving in developing countries.

2.4.2 Income Level and Income Uncertainty

Empirical research recently underlines the fact that saving ratios are low where income is low or bear to subsistence levels. In developing countries however, saving ratios differ partly because of the per capita income level. The magnitude of this effect is likely to decline as per capita income increases (Carrol and Weil, 1994).

Therefore, the very low per capita incomes render it almost impossible for households in developing countries to save. Kraay (2000) finds that saving ratios and levels of income per capita exhibit a modest positive correlation. He claims that average saving ratios rise as household income increases beyond the base minimum required for survival.

For Chakravarthy and Patnaik (1970) consumption, saving and investment patterns may relate to income in at least two folds; firstly through the level of income and secondly through the trends of income change. Deaton (1989) explains that household income in developing countries is uncertain and cyclical, making longer-term estimation difficult.

He also suggests that saving behaviour of individuals may be directed by rules of thumb, and emphasized that short-term increases and/or decreases in income are the primarily causes of saving/dissaving (Deaton, 1992). For Caballero (1990) the uncertainty of expected income would enhance the precautionary motive for saving in a stable macroeconomic environment. But in developing economies where such environments are often unstable, increased uncertainty may reduce saving through its effect on the variability of rates of return.

2.4.3 Intergenerational Links

Intergenerational links were found to be a significant determinant of saving behaviour in developing countries, where these links are particularly strong due to the large sizes of families. Gersovitz (1988) found that extended family links might lengthen the effective planning horizon over which households making saving decisions. Deaton (1989) agreed that households in developing countries are larger than in industrialized countries and more likely consists of several generations. As a result there is less to save for retirement of intergenerational transfers. Furthermore, Oberta (2006), in analyzing the role of children and family size on household saving, stresses the negative and regressive effects that additional children have on both the saving ratios and levels of households saving.

2.4.4 Liquidity Constraints

The measured incidence of liquidity constraints was found to be substantially greater in developing countries (Rossi, 1988). Households in these countries often have a limited access to credit markets and credit is mostly rationed. A panel study by Schmidt-Hebel *et al*. (1992) found that liquidity constraints play an important role in the case of developing countries. Deaton (1989) mentioned that especially young people in developing countries are likely to experience credit constraints. Such constraints should to ease with the development of the financial sectors, as intermediation develops that will facilitate more efficient saving and borrowing.

2.4.5 Consumer Behaviour

Saving and consumption are mirror images, which means that anything that increases consumption will reduce saving. If for example households increase their

consumption expenditure (buy more luxury commodities), this will affect their ability to save. Household decision on how much to consume and how much to save are analyzed by models focusing on intertemporal optimization. In the absence of borrowing constrains, the first order condition of such models is: the ratio between marginal utilities in any two periods has to be equal to the expected discount rate. Individuals borrow and save as outlined above in order to smooth consumption over time.

Any change in the discount rate will change the opportunity cost of current household consumption. In the absence of market imperfections the level of consumption (and therefore saving) today will change in the future. However, market failures are rife in developing economies, and as a result the elasticity of substitution is unlikely to be unity. Poorer households who are closer to the poverty line, may have less flexibility to substitute consumption between periods, thus their saving ratio is likely to be rather inelastic relative to that of richer households (IMF, 1995).

2.4.6 Interest Rate and Inflation

In the case of interest rates, it was generally found that countries with a high saving ratio, interest rates were not uniformly positive (World Bank, 1993). In some countries real interest rates tend to be more stable and less negative in other countries. Also, Dornbusch and Reynoso (1989) note, ‘virtually no study has demonstrated a discernable net effect [of real deposit rates on saving ratios]’.

From a theoretical point of view, it seems that the impact of the interest rate on saving is uncertain. This can be explained by means of the income and substitution

effects that generally function in opposite direction. Overall then, it appears that a change in real interest rates has an uncertain effect on saving, largely because of the competing income and substitution effects resulting from the change in interest rates. The income effect leads to higher current consumption. For example, when income increases, savers receive higher interest payments and can afford to save more (Miles and Scott, 2004). An example of the substitution effect is when the interest rate increases (here it is an intertemporal price) the first period consumption becomes more expensive so that the individual substitutes away toward second period consumption, through saving more (Miles and Scott, 2004).

The final effect of interest rates on saving seems to be inconclusive. In developing countries, the response of saving on interest rates seems to be weak. Ogaki *et al* (1996) argued that households only save at levels of income substantially above the subsistence level. Generally, an increase in the interest rates increases saving but the real income effect of higher interest rates can affects saving adversely. Koskela and Viren (1982) confirmed that saving increase as real rates of interest increase.

Giovannini (1985) provided evidence that for the majority of cases, the response of saving growth to real rates of interest is not different for developing countries. Furthermore, he claimed that '…in developing countries, assumptions about elasticity of substitution may not be realistic because a significant fraction of the population may not be able to borrow, even at black market rates'.

Household saving also responds to the rate of inflation. Higher inflation tends to lead to higher nominal interest rates and hence higher measured household income and

saving. According to Stiglitz (1993), inflation variability affects saving in opposite directions:

- To the extent that it increases uncertainty about future income, a high degree of price variability may lead to an increase in the saving rate, as a result of a **precautionary motiv**e to save
- But to the extent that a highly rate of inflation goes together with more uncertainty on the real rate of interest (or the return on saving), it may have a depressing effect on the decision to save.

2.4.7 Market and Government Failures

Relevant for the study of saving, is market failure in several instances, such as the lack of information as a result of financial illiteracy, and incomplete market as a result of adverse selection (Stigltz, 1993, Deaton, 1995; and Black *et al.*, 2005). These instances of market failure often distort the decision of individuals to save. Lavoie (1994) explains that in real life households lack perfect knowledge and the ability to process a large amount of information. They also lack confidence in their interpretation of the available information that can distort their consumption and saving decisions. As a result of market failure governments should play a strong role in implementing strategies to create a culture of saving.

However, government failure is also very real in developing countries. Governments in these countries often fail to implement suitable policies to correct for market failures. There are also the issues of corruption and rent-seeking by bureaucratic, politicians and other interest groups.

2.4.8 Social Security, Pension, and Insurance

In recent years, the number of social security schemes, pension funds and insurance schemes increased significantly in developing countries. These compulsory saving schemes are thought to benefit approved financial institutions but also lower the private saving rates. Jutting (1999) identified there channels in which these effects occur:

- By redistributing of income to the elderly;
- By reducing the need to save for retirement;
- By curbing the need for precautionary saving to cover the contingency of living longer than expected.

The affordability of various kinds of insurance such as health insurance, or liability or unemployment or personal loss, etc, may influence the saving behaviour of households. Insurance payments also limit expected cash flows for emergencies and contingencies. Various insurance schemes reduce income uncertainty and thus the need for precautionary saving, logically depending on the extent of insurance cover (Stiglitz, 1993). However, in some emerging economies, the economic effect of compulsory saving schemes on household saving was positive (World Bank, 1993).

2.4.9 Cultural Factors

The issue of culture attracted many questions and discussion in the economic debate. However, in poor developing countries (such as in sub-Saharan Africa) cultural aspects are important in the decision to save. Granato *et al*. (1996) define culture as a '…system of basic common values that help shape behaviour of the people in a given

society.' These authors further commented that this value system often takes the form of religion. Thompson (2001) defines culture as 'the total complex pattern of customary human behaviour, social forms and material traits embodied in thought, speech, action, and artifacts , and dependant on the human capacity for learning and transmitting knowledge and systems of abstract thought. This will include beliefs, morals, laws, customs, opinions, religion, superstitions, and art'. For Ingham (2000), culture is '…best appreciated as a learned behaviour passed from one generation to another not as some exogenously determined endowment which facilitates or constraints development'.

Moreover, culture influences the environment through different channels, the main one being trust (Federking, 2001)[13]. Fukuyama (2001) identifies four ways through which culture influences economic behaviour. These are:

- The impact on production and organizations;
- Attitudes of consumers and workers;
- The creation of institutions;
- The creation of social networks and social capital

The last one links culture and saving matters in developing countries in the informal sector. This link is often strong because of the cultural background of poor households in Africa. Saving and cultural aspects have strong correlation in the literature of informal saving mechanisms (see Robinson, 2001).

[13] Trust lead to an increase in the cooperation ability between individuals and decrease transaction costs and the inclination for rent seeking (Frederking, 2001)

2.4.10 Saving Mobilization in Developing Countries

Poverty means that the income of the people concerned are so low that it is difficult for them to even satisfy the most basic consumption needs. Saving under such circumstances is almost impossible. About 90 percent of people in developing countries cannot access the services of financial institutions (Robinson, 2001).

Also, in developing countries (particularly in sub-Saharan Africa), household saving are primarily in the form of non-financial assets (Aryeetey and Udry, 1999). Mwega (1997) indicated that the low saving ratio in sub-Saharan Africa reflects both the private saving function and the initial economic conditions.

2.4.11 Poor Households do Save

However, researches prove that 'the poor household wants to save and do save…but it is not easy'. They save in kind or in cash to provide for difficult periods. Study done by Dauner (2004) found that this segment of the population saves because they have particular reasons or motives to do so. When asked why they save, poor households responded as follows:

- To decrease their vulnerability to shocks (income, health, death, etc);
- To accumulate lump sums
- Life-cycle needs (birth, wedding, death)
- Investment in human, physical and social capital
- To bequeath relatives and friends
- To obtain credit

2.4.12 Saving Mobilization of Poor Households in Developing Countries

In the studies of saving, formal financial institutions frequently ask the question of how poor households save since they are the potential deposit receivers (Dauner, 2004). Poor households save in various forms, for reasons and purpose specific to their needs and entrust their monetary saving to different persons or places (neighbours, financial institutions, under the mattress etc.). Many emergencies or opportunities necessitate instant access to cash, and this explains why almost all low-income and poor families keep some amount of emergency saving at home (Wright, 2001). Also, an empirical study in West Africa in 1999 financed by special unit for microfinance (SUM) of MicroSave-Africa, shows how a poor woman use different saving services for different purposes for example:

- In decentralized financial systems in order to obtain credit;
- At the deposit collector in order to manage liquidity of her economic activity;
- In tontines, for future consumption, health expenses, housing etc.

Furthermore, Rutherford *et al.* (1996) identified several situations (when, where and how) under which low-income households save. It was found that they save when:

- They feel their saving are secure
- The amount of their saving is kept secret to others
- They can access all or part of their saving when needed
- They have the possibility to save often and easily
- They are entitled to obtain a credit (reciprocity)
- They feel they own their saving (their saving are not owned by a group)
- They feel the saving are growing and protected from inflation

- They feel under some social pressure to save
- They know at any time how much they have

Informal saving mechanisms

The informal sector is the primary source of financial services provision available to low-income or poor households in Africa. According to ECIAfrica Consulting (2003), informal financial associations (such as ROSCAs, NGOs and other non-bank institutions) are those suppliers who do not fall under the jurisdiction of laws, taxes and other regulations.

According to Robinson (2001), poor households use similar forms of informal saving in developing countries irrespective of their saving purposes. For example, in many developing countries in Asia, Africa, and Latin America, all types of saving are found in some form or other in all countries. Nevertheless, the forms in which the poor save are usually: cash, grain and cash crops, animals, gold and silver, jewellery and other valuables, land, rotating saving and credit associations (ROSCAs), also known as accumulating saving and credit associations (ASCAs), raw materials and finished goods, construction materials, cash or grain lend out for profit, deposit with informal saving collectors, and labour organizations (Robinson, 2001). However, informal saving mechanisms or non-banking systems, referred to as the ROSCAs, are the most commonly used in many developing economies.

The international literature commented that ROSCAs and ASCAs are extremely popular throughout developing countries because of social benefits arising from membership. Besley *et al*. (1994) stated that: ‘ROSCAs are widely observed

institutions for financial intermediation. They are found all over the world, particularly in developing countries…' Calomoris and Rajaraman (1998) regard ROSCAs as '…financial institutions widely reported in the developing world.' For Levenson and Besley (1996) 'informal finance is an important source of access to credit that informal financial markets account for much of the business credit in developing countries. Lastly, Van Denbrink and Chavas (1997) started their analysis of ROSCAs with the following scenario, '…imagine an individual somewhere in Africa faced with the problem of financing a major purchase.'

The point is informal financial organizations originated in developing countries and is becoming less important or competitive as formal markets develop. ROSCAs are perceived to be characteristic of developing and low-income countries and developed where formal financial institutions were not well developed, e.g. in Taiwan, where the financial sector was underdeveloped but the personal saving ratio was high (20 percent for a long period) (see Besley and Levenson, 1996). Also, according to Jutting (199) informal financial organizations develop where financial and insurance markets are still underdeveloped e.g. in Sub-Saharan Africa. Jutting (1999) found that 'it is generally accepted that ROSCAs play a very important role for people otherwise excluded from formal financial institutions.'

2.4.13 Saving Motivations

There are empirical studies emphasizing motivations for saving by households in different countries. Kraay (2000) identified important saving motivations in China to be precautionary reasons and target saving motives. Also Wei in 2009 pointed out reasons underlying high household saving in China as social safety net, low level of

financial development, life-cycle motives, culture, habit, corporate saving, and unintended consequences of social policies. According to Abdelkhalek *et al.* (2009) in Morocco saving is used as buffer stock to help households cope with uncertainty of both income and needs implying that insurance or precautionary reason is prime motive for saving.

In the United States, Stilglitz (1993) claims rich individuals save a considerable amount, often more than they need for their own retirement. Similar findings were noted by Lawrence Summers of Harvard University and Laurence Kotlikoff of Boston University who claim that wealthy people in United States save relatively larger amount for bequest implying that bequest motive was more important, but target motive to finance education for students missing scholarships found be existing. However, the studies found less need for precautionary saving in the United States as there is an effective insurance system covering a range of risks facing a household. Kotlikoff and Summers (1981) obtained surprising finding that intergenerational transfers account for about 80 percent of total household wealth in United States. By contrast, Modigliani (1988) obtained diametrical opposed finding that intergenerational transfers account for only about 20 percent of total household wealth in the United States.

Kitamura *et al* (1994) found that, the presence of well-established social security system and generous public pension programs increases consumption expenditures of workers households in Japan. The accumulation of wealth by Japanese households starts very early and lasts until very late in life, with unconsumed wealth transferred to the next generation in the form of bequest (Hayashi, 1997). Barthold and Ito

(1991) found that about one-third to one-half of household assets are obtained by bequest in Japan. Takayama and Kitamura in 1994 also found some evidence of substantial intergenerational transfers in Japan, however, Ohtake(1991) argues that bequests are motivated by selfishness rather than altruism implying that Japanese were not philanthropies as such they leave bequests in anticipation of assistance during old age. Also, Horioka (2009) claim that individuals in Japan do not leave very significant bequests as commonly thought, that parents often require a *quid pro quo*[14] for bequests to their children, and that wealthier individuals leave less bequests, meaning that bequests ameliorate wealth inequalities[15]. The study found in Japan majority plan to leave more bequests to the child who lives with or near them, who provides help with housework, who provides nursing care, who provides financial assistance, and/or who takes over the family name or the family business '*dynast*'. Retirement and housing motivations found also to be important in Japan (Horioka and Watanabe, 1997).

Various modern literature explore the possibility that individuals derive utility from wealth accumulation and anticipation of future consumption, therefore, utility from holding wealth has long been recognized see, for example, Weber (1930), Piqou(1941) and Kaplow (2010). The benefits may be internal (peace of mind, a sense of success) or external (status, power). Utility from accumulation also helps to explain the existence of miser, of high-ability individuals who continue to working longer and harder than seems to be justified by needs for future consumption or

[14] *Quid pro quo* refers to expectation of something in return or it simply means 'value for money'
[15] It means that if wealthier individuals were to receive more bequests this would contribute to exacerbating wealth inequalities to be passed on from generation to generation.

bequest motives, and, elatedly, of people who view their wealth more as a measure of success (a way of keeping score) than as to a more tangible ends.

Experiencing various benefits while still alive, including the joy of observing descendants or charitable beneficiaries make use of the gifts and the praise or status one may receive, and also the fact that earlier gifts may be more valuable to recipients (children may benefit more from gifts that fund home purchases, entrepreneurship, or simple consumption during early-adult years when they are liquidity constrained than in later years, when bequests are typically received) from *inter-vivos* gifts and bequests (both to descendants and to charities). When substantial *inter-vivos* gifts often are made for descendants, thrust are frequently employed. For philanthropic transfer, there are trusts, private foundations, and other devices. Although there are a variety of reasons donors may wish to maintain some control, another benefits of these instruments is that donors still feel some sense of ownership of the assets, perhaps generating a degree of continued utility from accumulation. In the absence of such mechanisms, *inter-vivos* gifts may well be even lower than the current, seemingly depressed levels.

Fehr and Habermann in 2008 found that tax incentives motivated individuals saving in Germany. They explain that as many other OECD countries before, Germany also introduced a programme to promote the development of private saving in 2001. The program was similar to individual retirement accounts (IRAs) in the United States and United Kingdom. Saving was mainly for life-cycle motives. Also, study by Borsch-Suppan and Essig (2003) found that more than 40 percent of Germany households save regularly a fixed amount and about 25 percent households plan their

saving and have clearly defined saving target in mind. Most of Germany household saving is in form of contractual saving, such as saving plans, whole life insurance and building society contracts. Thus makes the flow of saving rather unresponsive to economic fluctuations, such as income shocks. Also the study found most households prefer to cut consumption if ends not met.

Banks and Tanner (1999) reviewed the economics of household saving in United Kingdom (UK). The key findings were: total wealth in the UK was held in the form of liquid financial assets, housing, pensions and life insurance; some inequality in the distribution of wealth would be expected, given economic theories of the way households accumulate wealth over life-cycle; the 1980s were a period of dramatic change in ownership of key assets such as housing, pensions stocks and share; in spite of the proliferation of new saving vehicles, majority of the people still hold the majority of their wealth in conventional forms such as interest bearing accounts at the bank or building society; most individuals do not typically hold large amounts of financial wealth; tax-privileged saving vehicles have been taken up relatively widely, but are held predominantly by wealthier households; and almost one-ten of the population have no assets at all and this proportion has been increasing over time.

Using a GMM-system estimator and a balanced panel of 258 Norwegian farm households, Sand in 2002 found that traditionally in Norway farm households have relatively high saving and low marginal propensity to consume.

Upender and Reddy in 2007 done a study in India and found that the estimate of constant income elasticity of household saving to be more than unit implying that the

marginal propensity to save is higher than the average propensity to save, all else equal. Another study by Unny (2001) found positive factors influencing saving in India including level of income, income inequalities, value of assets and level of education, however, dependency ratio and number of male children had negative influence. According to Salam and Kulsum (2001) Indian government has policy in place promoting saving and capital formation as primary instrument of economic growth and that saving is used to finance increasing requirement for investment. In India, household sector saving provide bulk of national saving.

According to Waweru (2011) in Kenya SACCOs are seen as vehicles for resource mobilization and gateways to economic prosperity for families especially those in the lower and middle income category. Kibet *et al* in 2009 outlined determinants of saving in Kenya including type of occupation, household income, age, and gender of household head, level of education, dependency ratio, service charge, transport costs and credit access. Study by Ellis *et al* in 2010 found that, in Kenya, savings are used to undertake productivity-enhancing investments and education provision. As expected, rural inhabitants found to save more for agricultural investments while urban inhabitants tend to save for other purposes, such as starting a business. Individuals with a better education are more likely to save and invest than those with less education. Men and women exhibit similar patterns of behaviour in terms of saving for investment purposes.

Boring in 2010 found several solid determinant of household saving behaviour in Uganda namely: the age of the respondent (not just the age of the head of household), literacy, higher education, formal sector employment, entrepreneurial

activity, and attitudes about life's current state. Marital status and whether or not the respondent is sole responsible for the household financial decisions is statistically insignificant regarding whether or not to save but quite important regarding institutional choice. Also wealth found to play a significant role in the decision to employ informal and non formal institutional saving methods. Ssemakula in 2007 conducted a review of Rural Speed a USAID funded project on saving promotion radio programs in Uganda, he found that saving campaigns on radio generally demystified the thinking that Ugandans do not have the saving culture except there was a general lack of information on saving. The study found that project beneficiaries assert that they save in order to secure loans to establish or expanding their enterprises. The USAID assisted project aimed at a broad-based public awareness campaign with the aim of promoting the value of saving money. The programs included saving related key topics such as reasons for saving, a potential saver, where to save, why to save, and limitations of saving by rural households.

As Morrrissey and Leyaro pointed out in their credit research paper No. 10/03, suitable data are not available for Tanzania households meaning that there are trivial studies on household behaviour in Tanzania. Similarly, this study did not come across any specific comprehensive empirical study on rural household saving behaviour on Tanzania; however, some studies pointing motives for saving were found.

Findings by Lwoga *et al* (1999) on saving behaviour in Tanzania concur with other studies (Johnson and Rogaly, 1997 and Rutherford, 1999) that the poor use their saving for a variety of reasons which include daily expenditure, consumption

smoothing, and accumulation to meet life-cycle needs and events and financing emergencies as explained below in detail:

- *financing emergencies*: whereby the poor use their saving in order to cope with emergencies such as illness, accident, death, funerals, bereavement, desertion, divorce, theft and fires;
- *consumption smoothing*: as households experience seasonal fluctuations in income characteristics of rural areas, poor save money during high income seasons in order to have what to spend during low income seasons;
- *accumulation* to meet life-cycle needs and events such as purchase of plot, construction material, wedding ceremonies, education and establishing a home, widowhood, old age and death, and the need to leave something behind for one's heirs;
- *financing opportunities*: there are opportunities that require large sums of money, such as starting or running a business, acquiring productive assets or buying life-enhancing consumer-durables such as TVs refrigerator cars;
- *Daily expenditure*: the need to keep cash safely in order to manage and deal with day-to-day expenses and occurrences, including financing small emergencies. These are usually small amounts held in highly liquid form.

These findings are similar to those of Bagachwa(1995) who reports that 'these more liquid forms of saving are being used to finance education of children, to meet such regular needs as funerals and weddings; and to invest or expand investments (for example buy or build a home, purchase inputs or equipment and improve or enlarge farms'

Studies by Michael (2008) and Morrrissey and Leyaro (2003) also outline main source of household income in Tanzania including sales agricultural produce, business income, wage or salaries, cash remittances and fishing. According to Mchumnvo *et al* (2002) pooling resources including money is among traditional and informal social security arrangement in Tanzania[16]. Aikaeli in 2010 found important variables impacting income of rural households such as the level of education of household head, size of household labour force, acreage of land use and ownership of a non-farm rural enterprise. According to Evans and Day (2011) in Tanzania, assets are often sold as the household economy decline during parents' chronic illness implying that saving in form of assets are necessarily for precautionary or insurance motives. Similar result was found by Bollinger *et al* (1999) whereby their study on the economic impact of AIDS in Tanzania found households financing costs related to HIV/AIDS illness using saving resulting into poverty through reduced investments.

Lundberg *et al* (2003) found that for poor households, death reduces the likelihood that a household will save, and increases the likelihood that a household will dissave. Also he found that there is little impact among the wealthy, and wealthier households appear to recover with time in Tanzania. The exception to this is that even wealth households remain less likely to accumulate financial assets for many months after a death. For poor households, the probability of asset accumulation may never recover to the level that would have obtained in the absence of the death. Lundberg et al (2003) claim that the consequences to the household of continued disssaving would

not be so severe if the household had been able to build up a buffer stock on which they could draw in times of crisis. Consistent with the covariate nature of rainfall shocks, in Tanzania, households are more likely to use their own saving to cope with droughts, though savings are also used to cope with illness and death shocks (Christiaensen *et al,* 2006).

A study by Morris *et al* (2002) on understanding household coping strategies in semi-arid Tanzania with study purpose being to gain a comprehensive understanding of the assets and livelihood strategies available to and undertaken by the poor in semi-arid Tanzania, together with the factors that have shaped those strategies including social and economic change and the transforming structures and processes reveals that households through central semi-arid Tanzania are engaged in different and often multiple livelihood strategies. These include agricultural intensification and extensification, livelihood diversification, and migration; or combination of component activities. Also Morris *et al* claim that livelihood strategies or their pattern of activities are not static, but rather are frequently subject to review, adapted to take advantage of opportunities or mitigate risks, or substituted to cope with contingencies. The dynamics of such behaviour are dependant not only on changes in the external context but also on the wealth status of the households. The study ascertains accumulation and precautionary saving being risk management strategy in risk reduction, risk mitigation, and risk coping by poor rural households. Similarly Kessy *et al* (2011) assessed coping mechanisms in Singinda and Dodoma regions of Tanzania and found that selling assets was among coping strategies and livelihoods by households.

According to Dercon (1996) missing credit and insurance markets imply that households have to use different strategies to mitigate income risk and its consequences. In his study on risk, crop choice, and saving evidence from Tanzania suggests that risk considerations affect rural growth and increase rural inequality, via a '*poverty trap*'. Wealthier households end up with higher average returns, allowing further accumulation. Nevertheless, creation and propagation of appropriate liquid assets for the poor households by encouraging saving in good years would help the poor coping and mitigating risks.

According to FSDT (2006) the way in which many Tanzanians understand the terms saving, insurance and investment that it is often different from the way those same the concepts are understood in modern economies. In the Tanzania context a commodity can be saving and insurance at the same time meaning that in Kiswahili words for saving/investing and insurance are the same, and it is clear that the concepts are interchangeably for many Tanzanians.

FSDT claim that Tanzanians save in formal financial institutions and informal saving whereby people save in in-kind, keep saving in secret hiding place and/or give them to family/friends; livestock is the biggest form of saving in-kind suggesting that Tanzanians are resourceful and forward thinking. The study found that Tanzanians save to insure themselves against certain events. Events do Tanzanians save in order to insure themselves found to be wedding, farming inputs, education, bequests, retirement, purchase of household goods, emergency (burial and medical) and meeting household needs (smoothing consumption).

In Tanzania more rural people save to insure themselves than the urban counterparts, while men and women are equally concerned to save for the unforeseen. The youngest adults are least likely to save for the future, those between the ages of 25 and 34 years being most likely. After this age, the numbers drop again, levelling out after 54 years. The principal reason for low saving and investment found to be lack of money (FSDT, 2006).

2.4.14 Factors Affecting Saving

Changes in the tastes and preferences: Empirical study underlines the fact that major explanation for low saving may also relate to an increase in the number of people advocate living for the present, letting the future take care of itself, sometimes referred to as the 'now' generation (Stiglitz, 1993). He claims changes in the tastes to be among factors affected saving in the United States of America in nineties.

Social security: According to Stiglitz (1993) some economists, such as Martin Feldstein, allege that the growth in social security benefits contributed to decreased saving rates in the United States of America as social security operated like a pension: people pay money into social security while they work and get it back, with interest, when they retire. Social security ought to operate in form of ***pay-as you go*** system where with sufficient more workers than are retired individuals; a relative low tax on today's workers can go directly to pay substantial benefits today's retirees.

Capital markets: improved functioning of capital markets in the economy has been found to contribute to low saving. Since borrowing is simply the negative of saving,

instead of storing money with the idea of spending in the future, borrowers spend today with the idea of repaying in the future. Carol and Summers (1991) found that the changes that make easier for people to borrow will always tend to reduce saving as individuals substitute current consumption for future consumption in an event when it is cheaper to borrow than to save leading into substitution effect.

2.4.15 Stimulating Saving

There is a general consensus that improving household saving is for good. Stilglitz (1993) proposed a number of tax programs to stimulate saving in the United States of America. He argued that even if factors leading to low saving are well known, yet government would be hard-pressed to stimulate saving. Proposed tax programs include: (i) interest rate incentives e.g. higher after tax interest rate, (ii) the family saving plan through giving tax breaks, and (iii) decreasing the capital gains tax to increase value of an asset.

2.4.16 Investing Saving

According to Stiglitz (1993) there are numerous investment alternatives a saver may choose from to invest saving. However, every saver faces a myriad of possibilities when it comes to investing her saving. The choice she makes depend on the amount of money she has to invest, what originally motivated her to save, her willingness to bear risk, and where she is in life. The investment alternatives are as follows:

- Bank deposits: opening saving account offers three advantages (i) it pays you interest rate, (ii) easy access to your money; and (iii) it offers security because central bank mostly insures bank deposits;

- Money market mutual funds: a mutual fund gathers funds from a large number of investors, creating large pool of funds. The funds can be used to purchase a large number of assets. The advantage of a money market mutual fund is that higher rate of interest can be realized;
- Housing: households invest by owing their own homes. This investment is however subject to price fluctuation risk;
- Bonds: according to Stiglitz (1993) bonds are simply a way for corporations and government to borrow. The borrower whether it is a company or government promises to pay the lender (the purchase of the bond, or investor) a fixed amount in a specific time. Bonds seem relatively safe, because the investor knows what amount will be paid on maturity;
- Share of stock: a household may choose to invest in shares of corporate stock through buying shares in a firm and receive dividends from profit.

There are desirable attributes of investments according to Hisrich and Peters (2002). They argue that as investors survey the broad range of opportunities available to them; they strike balance between personal needs against the characteristics of investment options. The ideal investment would combine a high and sure rate of return with liquidity, less risk, and less tax. However, the principal attributes are difficult to get them all together.

2.4.17 The Role of Government

The role of government to building an inclusive financial system for all is a controversial topic.

A. Financial sector reform

Firstly, the financial sector needs to be reformed. The goal of countries embarking on financial reform is to improve the efficiency of financial sector while maintaining financial stability. It is believed that a stable and efficient financial sector provides the opportunity for implementing effective stabilization policies, boosting saving and improving the efficiency of investments (Agarwal, 2004). According to Modigliani and Cao (2004), reforms of the financial sector provide a sense of security in rural areas, which can contribute towards an increase in rural household saving in the form of investments in land and housing.

B. Promoting microfinance

Governments should ensure a favourable policy environment within which microfinance flourish. Rosenberg (1994) and Christen *et al.* (1995) argued, 'in most countries (with the exception of Bangladesh and Indonesia), microfinance programs have not yet succeeded in reaching the majority of poor households. This issue became more interesting when in 2004 it was included in the discussion of the G8 industrial countries[17]. According to the Helms (2000), the growing interest in microfinance derives from the increase in demand by the poor people and the shortage of supply to meet their needs. Microfinance for the poor was suggested as a poverty-reducing strategy and a set of principles formulated by CGAP[18] was accepted (Helms, 2006). Some governments such as Tanzania and Philippines have already introduced microfinance strategies.

[17] Meeting of the G8 industrial countries in Georgia, USA (2004)
[18] CGAP stand for Consultative Group to Assist the Poor

Helms (2006) claims that the role of government in this matter should be:

- Delivery financial services directly and indirectly;
- Introduction of policies that will affect the financial system;
- Proactively to promote inclusion by offering fiscal incentives or requiring financial institutions to serve the poor.

The last option seems to be more appropriate for governments in developing countries. Yaron (1992) claims that the microfinance revolution depends on institutional sustainability. The World Bank developed a range of indicators that measure the quality and the importance and governance of institutions across countries. These measures reflect six themes, which include the voice and accountability, political stability and lack of violence, government effectiveness, regulation quality and rule of law and lastly lack of corruption (Miles and Scott, 2004).

2.4.18 The Role of Private Sector (Microfinance)

The majority of low-income or poor households are marginalized and regarded as unbanked. They are not normally serviced by the commercial retail banking sector. Involving impoverished communities in their economic empowerment let to the creation of the concept of microfinance. In general, microfinance refers to programs that provide small scale financing facilities such as saving and credit to individuals that would in all likelihood not have access to alternative forms formal financial services[19]. The saving services (also referred as micro saving) give households

[19] For Robinson (2001) 'microfinance refers to small-scale financial services (primary credit and savings) provided to people who farm or fish or herd; who operate small enterprises or micro

confidence to save excess cash for future consumption. The credit services in contrast facilitate the spending of anticipated income for current consumption or investment (Robinson, 2001).

Microfinance services offer three main advantages.

(i) it is an initiative in which personal uplift is promoted

(ii) it helps poor households to reduce risk, improve their financial skills increase their productivity, gain higher returns on their investments

(iii) increase their incomes, and improve their living standard of the household

Mobilizing savings is never easy for the poor. The problem is aggravated because they do not have any bargaining power to obtain microfinance. They usually cannot discuss their creditworthiness and saving issues with the formal financial institutions. Robison (2001) put it in a single phrase: '*those who hold the power do not understand the demand and those who understand the demand do not hold the power*'.

2.5 Research Gap

This chapter has presented varsity theoretical and empirical literature, however there is a research gap noted by Researcher which this study contributes to fill-up. Some shortfalls found in the empirical studies reviewed include: (i) there is methodological gap whereby some empirical studies have used secondary data from national

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enterprises where goods are produced, recycled, repaired, or sold; who provide services; who work for wages or commissions; who gain income from renting out all amounts of lens, vehicles, draft animals, machinery and tools; and to other individuals and groups at the local levels of developing countries, both rural and urban.

accounts collected to serve a different purpose, this study uses primary (fresh) data specific to analyse determinants of rural household saving; (ii) there is sampling frame issue with most samples used are urban households meaning that most studies were conducted in urban centres rather than rural areas. This study uses primary data collected in rural areas; (iii) most empirical studies have estimated econometric models using OLS linear regression assuming linear relationship between variables which may not be the case especially with categorical data. Logistic regression which allows use of both categorical and continuous data is sued in this study; (iv) most of the empirical studies did not use mixed methods of qualitative and quantitative preferred by researchers because of complementarity attribute. However, this study uses mixed methods of qualitative and quantitative data collection approach; (v) most of the empirical studies have dominantly explored determinants of saving on supply-side meaning that the studies explain much on level or rate of saving than reasons or motives as to why household save which are central to this study; (vi) there is little comprehensive specific empirical study on determinants of rural household saving in Tanzania therefore this will be the first study providing substantial information on determinants of rural household saving in Tanzania; (vii) lastly, most of the empirical studies e.g. Chowa *et al.* (2012); Mirach and Hailu (2014); Precious and Asrat (2014); Teshome *et al.* (2013); and Nigus (2015) are case studies covering a small geographical area and population while the current study covers the entire country.

2.6 Conceptual Framework

From literature review discussion, saving is a multifaceted phenomenon. It can be studied from numerous perspectives namely (i) Macro and Micro perspectives in

terms of national saving and government saving (macro level) and private saving (micro level) which involves corporate and household saving; (ii) marginality perspective in terms of marginal propensity to save (savings vis-à-vis income); (iii) purpose perspective in terms of reason for saving (plenty of literature exist on use of corporate saving also known as retained earnings); (iv) theoretical perspective in terms of neoclassical economic theories, psychological theories, behavioural theories, and sociological theories; and (v) comparative perspective saving studied by sector or geo-politics.

Therefore, based on reviewed theoretical and empirical literature, conceptually there are two theories dominating this study which are Life-Cycle Hypothesis and Permanent Income Hypothesis presented under literature review. Therefore the rural household saving motives are examined in the light of following thoughts:

(i) *Factors affecting saving motives*: these are individual characteristics which are thought to influence motives to save such as age, sex, education, income, marital status, family size and occupation. These factors are considered internal with some degree of control by a household or individual; they are socioeconomic and demographic characteristics of a household. However, there are external factors such as economy, cultural, and political in terms of policies, institutions, legal and regulatory frameworks which affect saving motives but these factors are beyond household or individual control. Factors affecting saving motives constitutes independent variables of the conceptual framework.

(ii) *The Saving purpose:* the purpose of saving is divided into two categories of saving motives namely livelihood and non-livelihood. These categories are built

on concept that saving motives are organized in a hierarchy as proposed by Boeree (1998, 2006) using Abraham Maslow concept of hierarchy of needs. Boeree grouped saving motives in hierarchy as follows (from low to high) physiological (basic), safety, security, love/societal, esteem/luxuries, and self-actualization. The saving motives organized in a hierarchy concept assumes that individuals move up the hierarchy as lower-level motives are satisfied; however, Bryant (1990) and Beverly *et al*. (2003) pointed out that individuals make saving decisions with influence by variables such as demographic, human capital, economic, and attitudinal characteristics. This study assumes freedom of individuals on choice of saving motives in either category (choose at random manner) and that the categories are not in hierarchy. The livelihood motives consist of saving motives that are likely to contribute to economic welfare and poverty reduction including business motive, retirement motive, precautionary motive, education motive, house motive, land motive, assets motive, extra living cost motive, taxes and loan repayment motive; on the other hand non-livelihood category consists of motives that are likely not to contribute to household economic welfare and poverty reduction such as leisure and travel motive, luxury motive, entertainment motive, wedding motive, and funeral motive. Unlike corporate, household faces many choices of saving motives. These saving motives have been adopted from saving motives by Keynes also referred to by Modigliani (1986). Therefore, the two conceptual categories of saving motives viz: livelihood and non-livelihood constitute dependent variable which is dichotomy form.

(a) **Livelihood motives**

The *livelihood motives* category comprises of saving motives that potentially contribute to alleviation of material and immaterial poverty. The saving motives in this category would basically follows under physiological or basic needs, safety needs, and the need for security in the future as proposed by Boeree (1998, 2006), the motives include business, assets, house, land, education, precaution, extra living cost, bequests, and retirement. Based on absolute income theory, it is hypothesized here that households make rational decisions by giving priority to saving motives under this category in order to alleviate poverty. Poverty is assumed to be alleviated through use of the households' savings in investments to generate income, buying assets, building house, acquire land for cultivation, funding education, cushion emergencies, and accumulation of materials for bequests. Households are assumed about concern for their security in the future hence saving for retirement.

(i) Non livelihood motives

The *non-livelihood motives* category comprises of saving motives that do not potentially contribute to alleviation of material and immaterial poverty. The saving motives in this category basically follows under love and societal needs, and esteem and luxury needs and self-actualization as postulated in the saving hierarchy by Boeree (1998, 2006), the motives include wedding, luxury, leisure/vacation, travel, funeral, and entertainment. When savings are used for these motives, household saving is unlikely to contribute to the reduction of poverty *per se*. It is further assumed that households do not give priority to saving motives under this category as they are not related to poverty alleviation.

(b) *Implied outcomes of saving motives:* the study underscores implied outcomes of saving motives in relation to poverty alleviation. Motives under livelihood category are considered pro-livelihood which means that household pursuing motives under livelihood category are likely to alleviate poverty than household prioritizing non-livelihood motives. For example individuals who save for livelihood motives such as business and enterprise purpose, or saves to maintain living standard during retirement, or save as precautionary for unforeseen events, or save for education of her/his family, or save to buy a house, or save to acquire land, or save to buy assets, or save as an insurance to future extra living cost, or save to pay due taxes and loan repayment motive are likely to have better welfare and poverty alleviation. Whereas individuals with priority non-livelihood saving motives such as saving for leisure and travel, or saving for luxury, or saving for entertainment, or saving for wedding, and or saving for funeral are not likely to improve economic welfare poverty alleviation.

It is important to note that the study intends not to support or disapprove theories governing this study i.e. life-cycle hypothesis and permanent income hypothesis. Rather, the study uses these theories to highlight important factors influencing saving motives and their implication on poverty alleviation. Furthermore, the study did not intend to measure extent to which saving motives reduce or do not reduce poverty among rural households in Tanzania.

Conceptually, independent variables are in some way influenced by intermediate variables resulting into dependent variable of dichotomy nature in form of positive motives being those that can contribute to poverty reduction or negative motives

being those that cannot contribute to poverty reduction. For example political will towards entrepreneurship as means to address youth unemployment may have influence on people with young age to save for business motives. Therefore intermediate variables for this study include economy, political, socio-cultural, and environment. A simplified schematic framework of the conceptual framework of the study is presented under Figure 2.4.

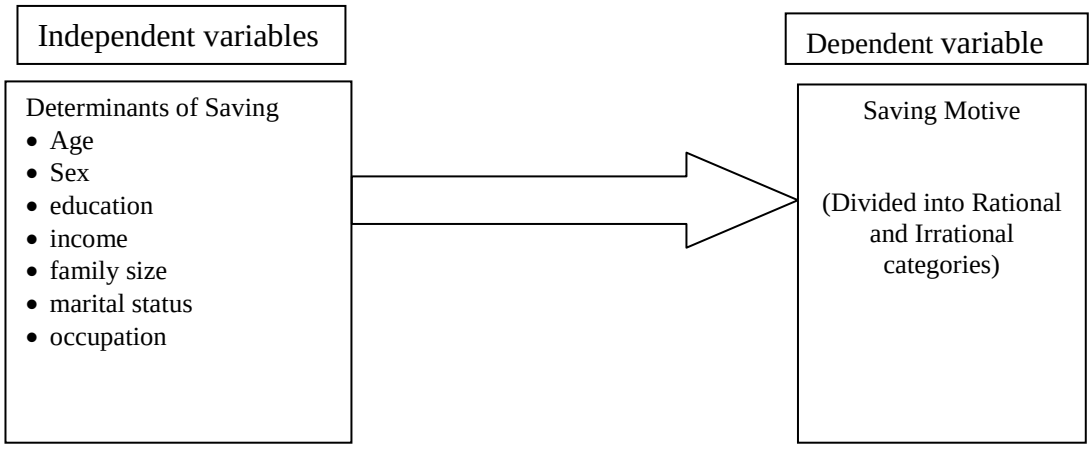

Figure 2.4: Conceptual Framework of Saving Motives
Source: Researcher, (2015)

2.7 Chapter Summary

This chapter discussed the theories on household saving behaviour. Other recent views that emerged in the study of household saving are also addressed. The major findings of all these theories are that saving is that part of income that is not spent or consumed. Income was found to be the main determinant of saving for a variety of purposes such as precautionary, consumption smoothing (life-cycle), and bequest motives.

The fundamental reasons or importance or role of households to save were highlighted. Empirical investigations carried out to-date also appear to support these

general propositions accepted for developing countries. Evidence from developing countries including Tanzania proves that household saving behaviour postulated by the traditional theory is undesired for poor households living in those countries. Therefore, it will be safe to proceed, in the present investigation, from the premise that low saving ratios by households in developing countries impact negatively on the investment potential and hence on the economy as a whole. Also empirical evidence showing how households save through informal saving mechanisms made it possible to include additional factors that can explain the reality of household saving in developing countries. Although these households lack a 'culture of saving', it will be important to review how the high saving countries implemented such culture.

Of all theories discussed under literature review, the life-cycle hypothesis and permanent income hypothesis are the building block theories backing this study on the determinants of rural household saving in Tanzania. The two theories fit well with motives of saving by a household. According to the study findings, the motives for saving by rural households have been found to be more within range of the life-cycle and permanent income perspectives than other theories underlying household or individual saving behaviour.

Finally, from theoretical and empirical literature review a conceptual framework of the study is drawn constituting independent variables, intermediate variables and independent variable of dichotomy nature. The framework conceptualizes linkages and interrelationships of the underlying study variables.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methods, techniques, materials and tools used in this study. It explains the study design, sampling procedures, collection and framework of analysis of the study data.

3.2 Study Design

This is a cross-sectional survey using both quantitative and qualitative techniques (mixed methods)[20]. The study uses *quasi-randomized* design approach with data collected in six different zones covering the entire country. Further, study approach employs sample survey using structured questionnaire together with focus group discussion to collect primary data with all study data collected once. It is a micro-econometric analysis as the study deploys regression analysis to estimate econometric model of the study. A number of researchers have recently used cross-sectional survey approach to study determinants of rural household saving like works of Mirach and Hailu (2014); Teshome *et al*., (2013); Nigus (2015); and Chowa *et al*. (2012). The rationale why Researcher selected this approach: Firstly, as it is common in developing countries, secondary data on rural households is scarce in Tanzania.

[20] According to Brannen (2010) quantitative approach offers representativeness, quantification and attribution while qualitative approach grants the reader the ability to uncover processes and to capture the diversity of perceptions, views of minority etc. Combination of qualitative and quantitative techniques is sometimes referred to as mixed methods or *Qual-Quan* or *Q-Squared method.*

Strength of mixed methods is also highlighted in the notes on Research Methodology prepared in 2010 for post graduate students of the Open University of Tanzania co-authored by Professor Deus Ngaruko Associate Professor in Development Economics and Mixed Methods Research, Open University of Tanzania.

Even if researcher would prefer using secondary information it would have been difficult to get these data.

Secondly, given that this is a descriptive study describing saving characteristics of rural households therefore primary data presents more recent state of affairs than secondary data which could be too old. Thirdly, combining questionnaire method and focus group discussion has the advantage to verify validity of data collected by comparing results. Fourthly, the study is not analysing trends or tracking variables over time therefore time series, panel data and trajectory approaches are not relevant here.

3.3 Sampling Strategy

The study combines both probability and non-probability sampling methods namely (i) simple random sampling (ii) convenience (or accidental) sampling and (iii) purposive (or judgemental). In Tanzania rural area constitutes largest part both geographically and population which according to NBS (2012) rural population was 70.4% out of 44,928,923 people in 2012. However, rural area is characterized by poor transport infrastructure thus making accessibility difficult in some areas; there are many ethnic groups (over 120) with diverse culture, norms, traditions, taboos, customs and behaviours; there is different livelihood systems including crop farming, pastoralism, mixed farming, and off farm activities (rural micro small enterprises); rural is populous, relatively poor and illiterate than urban Tanzania. In addition, there is financial and time limitation on the part of researcher. Therefore, sampling strategy has been designed such that it takes into consideration of the above important factors comprehensively.

As part of sampling strategy to ensure national sample representation, researcher divided rural population of Tanzania into six geographical zones which are (i) north zone, (ii) central zone, (iii) south zone, (iv) west zone, (v) east zone, and (vi) Zanzibar zone. The representative administrative regions in each zone are as follows: Kusini Pemba and Mjini Magharibi regions for Zanzibar zone; Kilimanjaro and Manyara regions for north zone; Iringa and Lindi regions for south zone; Dodoma region for central zone; Mwanza region for west zone; Tanga, Morogoro and Pwani for east zone. Therefore the study was conducted in thirteen rural districts in nine regions in Tanzania mainland and Zanzibar whereas each zone was at least represented by one rural district. Table 3.1 shows information on districts in which data were collected and the dominant rural livelihood activity.

The sampling strategy also involves use of different persons to collect study data so that biasness is minimized. Structured questionnaire was used to collect basic data needed to estimate the study model and descriptive statistics while focus group discussion serves the purpose to verify and validates data collected via questionnaire. Field assistant (enumerator) assisted to administer structured questionnaire in two districts of Kilwa and Mufindi among thirteen districts where data was collected. The researcher, who is knowledgeable of the study subject, administered the structured questionnaire, facilitated and conducted focus group discussions in eleven districts namely West district, Mkoani district, Kondoa, Sengerema, Katesh, Mheza, Iringa Rural, Moshi Rural, Rufiji, Ulanga, and Kilombero.

The focus group discussions were done among beneficiaries of one Belgian Technical Cooperation financed project known as Kilombero and Lower Rufiji

Wetlands Ecosystem Management Project (KILORWEMP) and four IFAD financed projects namely Rural Micro Small and Medium Enterprise Support Programme *alias* MUVI, Marketing Infrastructure Value Addition and Rural Finance Programme (MIVARF), Agricultural Services Support Programme/ Agricultural Sector Development Programme-Livestock Zanzibar (ASSP/ASDPL-Zanzibar), and Belgian Funds for Food Security (BFFS).

The rationale of using IFAD and BTC financed projects for the group discussions are: (i) researcher happen to be associated with IFAD and BTC thus providing opportunity to freely interact with project beneficiaries; (ii) project beneficiaries were normally in groups such as Rural Saving and Credit Cooperative Societies (RUSACCOs), Rotating Saving and Credit Associations (ROSCAS); Agricultural Marketing Cooperative Societies (AMCOS), Farmer Field Schools (FFS), Farmer Groups (FGs), and Community Based Organisations (CBOs) these groups had experience with focus group discussions given nature of IFAD and BTC interventions thus it was easier for the researcher to interact and conduct discussions with the focus groups; (iii) livelihood and improved living standard were among key objectives of these projects therefore beneficiaries were believed to increase enough income in future for consumption and saving thus validating their relevance in the discussions of determinants of rural household saving; (iv) researcher was focal person participating in IFAD and BTC field missions thus it was economical justified and convenient conducting focus group discussions while the researcher is on duty missions; (v) the researcher was monitoring and evaluation focal person for IFAD and BTC mandated to collect and analyse information from projects thus he had

gained substantial experience and skills interacting with concerned rural communities; (vi) the projects were geographically dispersed all over the country thus proving researcher with the opportunity to select samples reflecting national representation; and (vii) IFAD and BTC projects were being implemented in rural settings consistent with the study focus of rural areas.

The study uses both probability and non-probability sampling methods. Respondents of the study questionnaire were selected at random at rural market place for the two districts of Kilwa and Mufindi and from members of the farmer groups for the other eleven districts. Non-probability techniques judgemental and convenient were used to ensure balancing of gender and age cohorts of the respondents. Convenience technique was used to determine districts in the six zones. Sample districts selected were those among districts implementing the projects and programmes of IFAD and BTC which the researcher was associated to. However, there were pre-screening questions (i) whether the respondent was the target source of data i.e. household head or representative of household head; (ii) duration of stay, only respondents who had stayed for one year and above were interviewed to ensure respondents are those who actually stay and live in rural.

As regard to the focus group discussions, there were already formed groups of beneficiaries with experience in focus group discussions which are normally conducted in the course of implementation of the IFAD and BTC interventions. However, since these groups were made of too many members some with over 200 persons; the researcher opted for a small group of ten persons by requesting persons to volunteer in the discussion but with gender and age consideration. This helped to

have good representation whereby both men and women and age cohorts of young (below 30 years, middle (between 30 and 50 years) and old (50years and above) persons participated.

Study sample size was 810 households interviewed through questionnaire in the thirteen districts as seen in table 3.1. The size is in line with sample sizes adopted by other researchers of determinants of household saving for example Chowa *et al.* (2012) used 400 samples; Nigus (2015) used 250 samples; Teshome *et al.* (2013) used 700 samples; and Mirach and Hailu (2014) used 604 samples. In establishing sample size for each participating farmer group a sampling factor (0.759259) was used for pro-rata purpose with sample size being proportional to group members eligible for the study. The sampling factor denotes 76 percent of group members were selected in each farmer group. Total respondents selected from the famer groups was 615 or 76 percent of total questionnaire respondents. In Kilwa and Mufindi districts where farmer groups were not used represent 24 percent (195) of total study respondents (810) each of the two districts sampled at approximately 50 percent. The use of mixed respondents from groups with those not in groups aimed at controlling possible bias. Table 3.1 presents determination of sample sizes from each community or farmer groups in the eleven districts.

For the focus group discussion, eleven groups each 10 persons in total 110 people participated in focus group discussion making 920 total number of persons participated in the entire study. National representation of the study sample was achieved through zoning of the country into six different zones with each zone

represented by participating in data collection through questionnaire interview and focus group discussion. Table 3.2 and Table 3.3 present details of geographical locations for the study data and names of focus groups.

Table 3.1: Determination of Questionnaire Respondents in Farmer Groups

No	Name of farmer group/community	District	Members (eligible)	Sampling Factor	Number of Samples
1	Fuoni Dairy Association	West district	99	0.759259	75
2	Farm Field School in Kendwa	Mkoani	92	0.759259	70
3	Pangalua Village Water User Association	Kondoa	79	0.759259	60
4	Farmer Group	Sengerema	59	0.759259	45
5	Sayuni SACCOS Galangala Village	Mheza	46	0.759259	35
6	Maduma Farmers	Ulanga	79	0.759259	60
7	Farmer group	Kilombero	59	0.759259	45
8	Juhiwangumwa Wildlife Management Area Community Based Organisation	Rufiji	46	0.759259	35
10	Mbuti Beach Management Unit	Iringa Rural	99	0.759259	75
12	Chokoachoko Community Based Forest Management	Katesh	86	0.759259	65
13	SACCOS in Umbwe	Moshi Rural	66	0.759259	50
	Total				**615**

Source: Researcher, (2015)

The *quasi-randomization* approach established six zones whereby data was collected from each zone through structured questionnaire and focus group discussion. This approach aimed at proper distribution of representatives from different parts of the country.

Table 3.2: Geographical Location for the Study Data Collection

No	District	Region	Zone	Data collection method and samples		Major livelihood activity of respondents
				Questionnaire respondents	FGD participants	
1	West district	Mjini Magharibi (Unguja)	Zanzibar	75	10	Fisheries & farming
2	Mkoani	South (Pemba)	Zanzibar	70	10	Fisheries & farming
3	Kondoa	Dodoma	Central	60	10	Pastoralism (Maasai)
4	Sengerema	Mwanza	West	45	10	Farming
5	Mheza	Tanga	East	35	10	Farming
6	Ulanga	Morogoro	East	60	10	Farming
7	Kilombero	Morogoro	East	45	10	Pastoralism & farming
8	Rufiji	Pwani	East	35	10	Farming
9	Mufindi	Iringa	South	90		Farming
10	Iringa Rural	Iringa	South	75	10	Farming
11	Kilwa	Lindi	South	95		Farming
12	Katesh	Manyara	North	65	10	Pastoralism & Farming
13	Moshi Rural	Kilimanjaro	North	50	10	Farming
			TOTAL	**810**	**110**	

Source: Researcher 2015

3.4 Data and Data Collection

As explained in previous paragraphs this study uses cross-sectional data "*primary data"* directly collected from respondents 'household heads'. The data was collected through survey questionnaire from 810 respondents in thirteen rural districts whereby verification of data collected was done through focus group discussion (ten people in each focus group) in 11 districts as presented in Table 3.2. Further, it is elaborated in previous paragraphs that the study unit is household with information collected from household head or representative of household head.

Data collection was done in three phases: phase one involved development of data collection tools namely structured survey questionnaire and checklist of focus group discussion. Phase two involved induction and orientation of the enumerator (field assistant) deployed to assist administering the questionnaire in two districts, pre-testing of the data collection tools for fine-tuning and necessary adjustments. Phase three involved actual data collection preceded by seeking of official permission from district administrations that had no IFAD and BTC projects. Kilwa District authority, through letter dated 16/8/2011 with reference No. KDC/E.10/207/VOL.11-49, authorized permission to collect data using survey questionnaire whereas Mufindi District authority, through letter dated 9/9/2011 with reference No. HW/MUF/5.50/42 IV/202, authorized permission to collect data using survey questionnaire. Copies of letters of permission are attached in appendix 6. As for data collection in the other eleven districts where IFAD and BTC farmer groups existed researcher had prior permission to access to the project groups thus authorization letter to interact with respondents was not required. However, researcher sough prior consent of respondents participated in questionnaire survey and focus group discussion.

The actual process of data collection involved enumerators administering questionnaire to households selected using both simple random sampling, accidental and judgemental techniques. Enumerators had to establish good rapport and consent of respondent then going ahead with completion of the questionnaire. The questionnaire was administered by the enumerators because (i) majority in rural areas are illiterate or semi-illiterate hence it is difficult for them to complete the

questionnaire; (ii) since the questionnaire was easily understood by enumerators therefore in the interest of time enumerators administered the questionnaire; (iii) enumerators administered the questionnaire to avoid incompleteness; (vi) enumerators administered the questionnaire to enhance probing of ambiguity answers; (v) enumerators administered the questionnaire because it was in original language (English) with purpose to avoid translations errors. From enumerators time record, on average questionnaire was completed within 45 minutes except in some cases where it went up to about 60 minutes (one hour).

Table 3.3: Names and Dates of Focus Group Discussions

No	Names of Focus Groups	District	Date
1.	Fuoni Dairy Association	West District	June 2012
2.	Farm Field School in Kendwa	Mkoani	May 2012
3.	Pangalua Village Water User Association	Kondoa	October 2013
4.	Farmer Group	Sengerema	April 2013
5	Sayuni SACCOS Galangala Village	Katesh	April 2013
6.	Maduma Farmers	Mheza	April 2013
7.	Farmer group	Iringa Rural	April 2013
8.	Juhiwangumwa Wildlife Management Area Community Based Organisation	Rufiji	February 2015
9.	Mbuti Beach Management Unit	Kilombero	March 2015
10.	Chokoachoko Community Based Forest Management	Ulanga	March 2015
11.	SACCOS in Umbwe	Moshi Rural	July 2012

Source: Researcher 2015

Eleven group discussions were carried out in the eleven districts as indicated in Table 3.2. Researcher facilitated all focus group discussions while conducting his regular official missions to interact with project beneficiaries. Up on consent participants were asked to discuss motives for saving guided by a checklist sample format attached as appendix 2. Researcher facilitated discussion by clarifying ambiguous areas and noting key points. Focus group discussions, on average, ran for thirty minutes time.

3.5 Analytical Framework

Descriptive analysis, inferential analysis and econometric model are commonly used in data analysis of most empirical studies on determinants of household saving. For example, works of Chowa *et al.* (2012); Mirach and Hailu (2014); Precious and Asrat (2014); Teshome *et al.* (2013); and Nigus (2015) have used descriptive analysis to establish descriptive statistics, also they used inferential analysis and econometric models to explain demographic variables and theoretical perspectives through estimation of relationships and testing of hypotheses.

The framework of analysis of data for this study is similar to the analytical frameworks used by other researchers in this field of study. Therefore, analysis of data for this study is done into three ways: (i) descriptive analysis is used to estimate descriptive statistics such as frequencies, percentages and cross tabulations; (ii) inferential analysis using a non-parametric test 'Chi-square test statistic (X^2)' is used to test hypotheses; and (iii) Regression analysis using logistic regression[21] is used to

[21] In statistics, **logistic regression** (sometimes called the **logistic model** or **logit model**) is used for prediction of the probability of occurrence of an event by fitting data to a logistic curve. It is a

estimate study model. This study uses primary data which mostly are categorical in nature (also known as discrete), therefore, most of the variables are measured at two levels namely nominal level and ordinal level. However, discussion and conclusions of this study are based on results from data analysis.

This study on determinants of individual saving in rural Tanzania classifies saving motives into two broad categories namely livelihood motives and non-livelihood motives. Livelihood motives refer to saving motives that can contribute to poverty reduction they include business motive, retirement motive, precaution motive, education motive, house motive, land motive, assets motive, extra living cost motive, taxes and loan repayment motive; on the other hand non-livelihood motives refer to motives that do not contribute to poverty reduction such as leisure and travel motive, luxury motive, entertainment motive, wedding motive, and funeral motive.

3.6 Econometric Model

3.6.1 Model Specification

This study uses Logistic Regression Model (LRM) to explore relationship in form of likelihood between independent variables namely age, sex, education, marital status, family size, occupation and income and dependent variable which is saving motives. The rationale to use LRM model lies with the fact that study data is in the form of categorical and numeric thus logistic regression is appropriate for estimating the study model. The researcher postulate relationship between demographic and

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generalized linear model used for binomial regression. Like many forms of regression analysis, it makes use of several predictor variables that may be either numerical or categorical (Agresti, 1996)

socioeconomic characteristics such as income, sex, age, marital status, family size, occupation, and education on one hand and saving motives on the other hand. However, dependent variable is dichotomy thus saving motives have been sub divided into two categories: (i) livelihood saving motives or saving motives that reduce poverty and (ii) non livelihood saving motives (saving motives that do not reduce poverty). While the livelihood category consists of saving motives that contribute to poverty reduction including business motive, retirement motive, precaution motive, education motive, house motive, land motive, assets motive, extra living cost motive, taxes and loan repayment motive; on the other hand non livelihood category consists of motives that do not contribute to poverty reduction such as leisure and travel motive, luxury motive, entertainment motive, wedding motive, and funeral motive. The model variables are commonly used in many empirical studies on determinants of household saving motives including works of Chowa *et al.* (2012); Mirach and Hailu (2014); Precious and Asrat (2014); Teshome *et al.* (2013); and Nigus (2015). Further, the study variables are supported by existing theories on household saving which Chowa *et. al* (2012) classified into three perspectives: (i) an individual-oriented perspective; (ii) a social stratification perspective; and (iii) an institutional perspective.

The model is used to measure association of the demographic and socioeconomic characteristics on saving behaviour of a household in the light of poverty reducing saving motives and non-poverty reducing saving motives. Logistic Regression is Generalized Linear Model (GLM) which follows under Maximum Likelihood Estimators (MLE). Researcher chose this model because it allows use of both

numeric and categorical data (discrete variables) unlike Ordinary Least Squares (OLS) estimators (linear regression models) that allows only continuous variables (numerical data). The model provides empirical results that form basis for discussion on the rationale of the saving motives on poverty reduction. The logistic regression model used in the study is provided by the logistic function:

$$f(y) = \frac{1}{1+e^{-z}} \qquad (1)$$

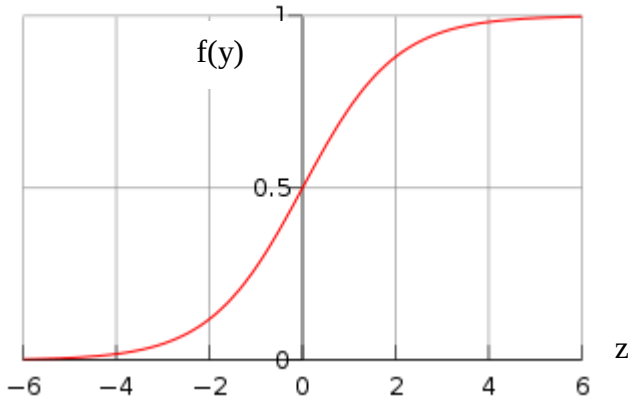

Figure 3.1: The Logistic Curve

A graph of the function is shown in Figure 3.1. The "input" is z on the horizontal axis and the "output" is *f(y)* on the vertical axis. The variable z represents rural household saving factors, while *f(y)* represents the probability of a particular outcome, given that set of determinants (factors). The variable z is a measure of the total contribution of all the factors used in the model and is known as the logit.

The variable z is defined as

$$z=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\beta_5X_5+\beta_6X_6+\beta_7X_7 \qquad (2)$$

The logistic regression equation (1) written with variable z defined

$$f(y) = \frac{1}{1+e^{-\beta 0+\beta 1X1+\beta 2X2+\beta 3X3+\beta 4X4+\beta 5X5+\beta 6X6+\beta 7X7}} \qquad (3)$$

The study model is stochastic (or probabilistic) rather than deterministic meaning that there are factors that influence rural household saving motives but not represented into this model. However unlike OLS models it is not common introducing error term in logit models. The variable z factors defined as

$$z=\beta_0+\ \beta 1X1+\beta 2X2+\beta 3X3+\beta 4X4+\beta 5X5+\beta_6X_6+\beta_7X_7 \qquad (4)$$

Where:

f(y) = Dependent variable which is saving motives

X1 = First predictor which is age

X2 = second predictor which is education

X3 = third predictor which is marital status

X4 = fourth predictor which is sex

X5 = fifth predictor which is income

X6 = sixth predictor which is occupation

X7 = seventh predictor which is family size/dependency level

β0 = intercept

β1 = regression coefficient of first predictor (X1- age)

β2 = regression coefficient of second predictor (X2- education)

β3 = regression coefficient of third predictor (X3- marital status)

β4 = regression coefficient of fourth predictor (X4-sex)

β5 = regression coefficient of fifth predictor (X5- income)

β6 = regression coefficient of sixth predictor (X6-occupation)

β7 = regression coefficient of seventh predictor (X7-family size)

Therefore, equation (3) presents study model which is made of one dependent variable, seven independent variables, and intercept. Each of the regression coefficients describes the size of the contribution by the predictor. A positive regression coefficient means that the predictor increases the odds of outcome, while a negative regression coefficient means that the predictor decreases the odds of outcome; a large regression coefficient means that the predictor strongly influences the odds of the outcome; while a near zero regression coefficient means that the predictor has little influence on the odds of outcome.

3.6.2 Model Variables

Dependent variable

The study model uses categorical variables (discrete). There is a single dependent variable also known as dichotomy dependent variable for the study model. It has two categories where category 1: livelihood saving motives and category 2: oppose saving motives that reduce poverty *'non-livelihood'*, hence the model is binary logistic regression. The livelihood category consists of saving motives that contribute to poverty reduction including business motive, retirement motive, precaution motive, education motive, house motive, land motive, assets motive, extra living cost motive, taxes and loan repayment motive; whereas the non-livelihood category consists of motives that in real sense do not contribute to poverty reduction including leisure and travel motive, luxury motive, entertainment motive, wedding motive, and funeral motive. Therefore, the first category 'favours saving motives that can combat poverty is the dependent reference whereas the second category 'opposes saving motives that can combat poverty is the dependent predicted. The reference category

for the dependent variable has been set as lower category to avoid possibility of being overridden.

Independent variable

The study model uses seven predictors namely income, sex, age, education, occupation, family size and marital status, however, categorical coding provides that the highest (last) is the default reference. Measurement of independent variables i.e. age, education, family size, income, and occupation is similar to those used in other studies on household saving including works of Chowa *et al.* (2012); Mirach and Hailu (2014); Precious and Asrat (2014); Teshome *et al.* (2013); and Nigus (2015). Therefore the predictors are measured as follows:

(i) Sex:

1 -Male

2 -Female (the default reference)

(ii) Age

1 -Young (below 50 years)

2 -Old (above 50years) (the default reference)

(iii) Education

1 -low education (Primary and Secondary level)

2 -high education (Tertiary level)-the default reference

(iv) Marital status

1 -Married

2 -Not married (Widowed, Divorced, Separated, Never)-the default reference

(v) Income

1 -Poor (earn less than TZS 300,000 per month)

2 -Not poor (earn above TZS 300,000 per month) (the default reference)

(vi) Occupation

1 -farming (crop & livestock)

2 -off farm activities (the default reference)

(vii) Family size (dependency level)

1 -small family (below five household members)

2 -large family (above five household members) (the default reference)

3.6.3 Significance Test

This study uses Hosmer and Lemeshow Chi-square test of goodness of fit to test for overall fit of the study model. According to Garson (2008) Hosmer and Lemeshow test is the recommended test for overall fit of a binary logistic regression model. Hosmer and Lemeshow's goodness of fit test divides subjects into deciles based on predicted probabilities, and then computes a chi-square from observed and expected frequencies. Then a probability (p) value is computed from the chi-square to test the fit of the logistic model. If Hosmer and Lemeshow goodness of fit test statistic is greater than 0.05, as required for well-fitting models, then null hypothesis is confirmed, implying that the models estimates fit the data at an acceptable level.

3.6.4 Wald Statistic

Wald statistic test was used to test the significance of individual logistic regression coefficients for each independent variable that is, to test the null hypothesis in the

model that particular effect of the coefficient is zero. The test helped to decide what independent variables to drop out from the model on the basis of their significance level. The Wald test corresponds to significance testing of beta (β) coefficients in OLS regression.

3.6.5 Assumptions

It is common phenomenon making assumptions in econometric models. Therefore, econometric model of this study does not assume the restrictive assumptions of OLS regression which include: (i) linear relationship between the dependent variables and independent variables, (ii) multicolinearity, (iii) heteroscedasciticity, and (iv) autocorrelation problems. Logistic models doesn't assume linear relationship between the dependent variables and independent variables as it is the case with OLS models, neither MLE models are not affected by multicolinearity, heteroscedasciticity, and (iv) autocorrelation problems which normally occur in OLS models. Further, the study model doesn't require the variables to be in the form of interval (continuous) and or normally distributed as it is the case with OLS regression models.

3.7 Hypotheses Testing

The Chi-Square Test (X^2) was employed to test the study null hypotheses: (i) saving motives of rural people are rational, and (ii) rural people do not switch off saving motives. The chi-squared test was used to determine whether there is a significant difference between the expected results (frequencies) and the observed results (frequencies). The values of X^2 to test the null hypothesis (viz, Ho: $Q^2_s=Q^2_p$) were computed using SPSS computer software from X^2 formula provided hereunder:

$X^2 = Q^2_s / Q^2_p$ (n-1)

Where:

Q^2_s = variance of the sample (referred to as observed results)

Q^2_p = variance of the population (referred to as expected results)

(n-1) = degree of freedom, n being the number of respondents in the sample

3.8 Validity and Reliability

In testing validity it is found that this study complies with majority of the techniques of test validity namely (i) Evidence based on test content; (ii) Evidence based on response processes; (iii) Evidence based on internal structure; (iv) Evidence based on relations to other variables; and (v) Evidence based on consequences of testing. The study methodology (survey approach, sampling strategy, analytical framework) used is similar to methods and tools by other researchers in household saving like the studies by Mirach and Hailu (2014); Teshome *et al*., (2013); Nigus (2015); and Chowa *et al*. (2012).

A number of measures were devised to control possible biasness e.g. geographical bias was controlled through application of zones with data collected from six zones representing diverse geography, culture, economy, etc. Gender bias was controlled by targeting 50:50 ratio of male and female, respondents bias was controlled by applying simple random sampling whereby random numbers were used to select respondents in farmer groups, as for bias control related to researcher-respondents familiarity, only the farmer groups that were not familiar with the researcher were targeted. Also study data was collected within a period of same political leadership

with stable macroeconomic thus controlling bias related to socio-economic political influence.

Further, results are analogous to those postulated by theories and are similar to other many empirical studies e.g. NBS (2014) shows that rural households use own savings as start-up capital for business in Tanzania. Therefore results of this study are valid and reliable.

CHAPTER FOUR

RESULTS

4.1 Introduction

Results of the study on determinants of rural household saving in rural Tanzania are presented in this section. The study examines rural people behaviour in terms of saving motives and addresses four specific objectives namely to: (i) Identify saving motives of rural households; (ii) Assess switching of saving motives; (iii) Determine association between saving motives and demographic characteristics; and (iv) Ascertain temporal dimension of bequest distribution between *in-vivos transfers* and *intergenerational transfers*. Also, the results address two hypotheses of the study (i) saving motives of rural households are rational, (ii) rural households do not switch off saving motives.

A standard questionnaire was used to collect survey data from 810 respondents in thirteen rural districts. Further, data were collected through focus group discussions involving about 110 respondents in 11 rural districts refer chapter three for detailed research methodology. The field data were collected between year 2011 and 2015. Respondents are household heads or their representatives from the age of 18 years. In Tanzania, this is legal age that means a person is legally allowed to undertake salaried jobs and/or engaging into income generating activities with rights and freedom of choice how to use such earnings. Many households claim that they were actually not saving mainly because income earned was little such that it was used for consumption '*hand to mouth*'; however, their responses and views on saving motives were considered valid for the study under the assumption that saving motives in

mind represents motives which the respondents would save for under *ceteris paribus*. Therefore, the study investigates views of rural household towards saving motives in general.

4.2 Aggregate Results

Table 4.1: Response Statistics

Description/Question	Number of Responses	Response percentage
Sex of a respondent	810	100.0%
Age of a respondent	809	99.9%
Age group of respondent	809	99.9%
Education level of a respondent	713	88.0%
Marital status of a respondent	807	99.6%
Number of dependants	619	76.4%
Occupation of a respondent	745	92.0%
Respondent's monthly income estimate	690	85.2%
Where are your saving kept/stored	805	99.4%
Reason for choosing where to keep saving	762	94.1%
What is your first saving motive	805	99.4%
What is your second saving motive	804	99.3%
What is your third saving motive	804	99.3%
What is your fourth saving motive	804	99.3%
What is your fifth saving motive	803	99.1%
What is your sixth saving motive	803	99.1%
What is your seventh saving motive	802	99.0%
What is your eighth saving motive	802	99.0%
What is your ninth saving motive	802	99.0%
What is your tenth saving motive	802	99.0%
What is your eleventh saving motive	801	98.9%
What is your twelfth saving motive	799	98.6%
Respondent's category of priority motives	802	99.0%
Respondent's preferred saving motive	807	99.6%
Respondent's priority bequest receiver	802	99.0%
Type of bequests distributed	779	96.2%
Actual period for bequests transfer	788	97.3%
First priority items for using saving	807	99.6%
Flexibility against respondent’s motives	800	98.8%
Source of money for buying most assets	695	85.8%
Financial literacy by respondent	799	98.6%
Selected assets portfolio proportion	704	86.9%
average responses	781	96.4%
Non response	29	3.6%

Source: Field Data (2015)

The total number of respondents participated in the survey are 810. Table 4.1 shows rate of responses against each question in the questionnaire, the study's overall response is 781 respondents (96.4 percent), thus non-response rate is 3.6 percent. Respondents socioeconomic characteristics include: 52.3 percent are men and 386 (47.7 percent) are women. 12 percent of the respondents have not attended school at all, 62.7 percent have primary education, and 22.2 percent have secondary education while only 3.1 percent have managed to study up to tertiary level (College or university education). Marital status of the respondents include: 53.3 percent are married, 36.2 percent are single, 3.7 percent are widow, 3.1 percent are divorcees and 3.3 percent are separated. Results show occupation of the respondents as farm and off farm activities 95.1 percent and 4.9 percent are employed. On average every respondent has four dependants.

The response on where respondents keep and/or prefer to keep saving are home 42.2 percent whereby the reasons for keeping money at home are safety, easy accessibility and little money that would not have been proper and/or economically justifiable keeping with formal financial institutions; 57 percent of respondents prefer to keep money into financial institutions such as commercial bank, SACCOS, RUSACCOS, VICOBA and ROSCA the reasons are safety, discipline or self-control while using money, eligibility to access credits (loans).

Table 4.2 shows data on rural households priority against twelve saving motives, results as seen from this table, on basis of the saving motives with high score without repetition, results show education motive receives first priority followed by illness and disaster or precautionary motive, house and land motive ranks third, retirement

motive ranks fourth, business motive ranks fifth, assets motive ranks sixth, extra living expenses ranks seventh, taxes and loan repayment motive ranks eight, bequests motive ranks ninth, marriage motive ranks tenth, nonspecific motive ranks eleventh, and leisure and entertainment motive ranks twelfth. Results for Illness and disaster (precautionary) motive confirm inadequate social schemes and insurances in rural areas.

Table 4.2: Response on Saving Motive Preferences

No	Saving Motive	Score (%)											
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
1.	Retirement	3.2	6.7	17.8	14.2	14.8	10.7	10.2	11.4	6.0	2.5	1.1	0.4
2.	Extra living cost	1.7	4.8	5.4	9.6	8.0	15.8	18.5	20.1	11.9	2.2	0.9	0.2
3.	Illness , disaster (precautionary)	9.3	28.9	20.1	16.3	12.3	6.7	2.8	1.6	0.5	0.6		0.0
4.	Education	50.9	13.1	8.8	6.5	4.4	4.0	4.2	3.6	1.9	1.0	0.2	0.0
5.	Marriage	0.7	0.6	0.5	1.1	1.5	1.2	2.3	6.2	14.0	38.6	29.6	2.5
6.	House & land	15.6	19.1	12.0	12.5	12.7	8.6	9.9	5.6	1.7	0.6	0.7	0.4
7.	Assets (durable items)	7.0	10.9	12.1	11.5	11.7	15.1	11.2	8.3	6.9	4.1	0.2	0.1
8.	Leisure & entertainment	0.5	0.2	0.4	0.9	0.4	0.5	0.5	0.9	1.9	3.7	15.3	74.9
9.	Taxes & loan repayment	0.5	1.7	4.9	7.2	10.0	14.6	17.0	18.6	14.4	6.9	1.7	0.7
10.	Business	8.9	11.5	15.2	14.9	15.9	13.8	10.7	4.0	2.3	1.6	0.6	0.0
11.	Non specific	0.2		0.1	0.4	1.0	0.5	0.4	1.7	8.9	22.2	45.6	17.9
12.	Bequests	0.9	1.7	2.0	4.2	6.8	7.7	11.1	17.2	28.6	14.9	2.8	1.5

Source: Field Data (2015)

Majority of households 74.1 percent (600 persons) give priority on saving motives related to poverty reduction including business and enterprising motive; assets and durable goods motive; house and land motive; education motive; retirement motive; extra living cost motive; illness (*health as proxy for productive person or human resource*), disaster and precautionary motive; paying taxes and loan repayment motives; however, 24.9 percent give priority to non poverty alleviation motive such as bequest, non specific motive, marriage and leisure and entertainment motive.

Table 4.3: Respondent's Behaviour Model of Choice

Behaviour model	Frequency	Percent
Life cycle	692	85.4
Dynast	110	13.6
Altruism	5	0.6
Non response	3	0.4
Total	**810**	**100.0**

Source: Field data (2015)

Table 4.3 shows life cycle as the dominant model of behaviour of rural household with 85. 4 percent of respondents chose life cycle model, it is followed by dynasty model 13.6 percent and altruism (0.6 percent) is the last model of household behaviour in rural Tanzania. On bequest distribution, 78.6 percent prefer to leave their bequest to all children; 13.5 percent chose to leave bequest to first born child and 5.2 percent households interviewed prefer to leave bequests to all relatives. The study shows that respondents prefer type of bequests to be distributed include social support such as education, treatment, food and marriage; finance capital, assets e.g house, household items, car; investments and businesses; financial aid and grants to non-family members such as orphans, sick persons, widows, disabled persons etc. On one hand results show all households are ready for actual distribution of some bequests before death (or while still alive) *'inter vivos transfers'* e.g provision of education, treatment, food; on the other hand 85.6 percent of the households are not ready to transfer bequest until after death *'intergenerational transfers'* for goods such as assets and investments. Among four items namely entertainment, farm inputs and enterprises, assets and education, it is education which receives first priority as the overall results show 66.8 percent of respondents are ready to use saving on education.

Table 4.4: Flexibility on Saving Motives

Switching of saving motives	Frequency	Percent
Never	370	45.7
Rarely	301	37.2
Frequently	129	15.9
Non response	10	1.2
Total	**810**	**100.0**

Source: Field Data (2015)

Table 4.4 shows household flexibility on saving motives; 45.7 percent never attempt to change original motives, 37.2 percent rarely change their saving motives and only 15.9 percent are expected to change their saving motives frequently. On source of money to buy assets, 56.2 percent buy assets using saving and non-saving money, 19.3 percent buy assets using non saving income while 10.4 percent buy assets using saving.

Results show 79.4 percent of rural household have no elementary knowledge on financial education including bookkeeping, financial statements, costing, interest, dividends, pricing. 16.4 percent have very low knowledge over financial issues and only 2.8 percent have medium knowledge of financial management. Of the twelve assets in household assets portfolio surveyed namely: radio, television, motorcycle, car, refrigerator, bicycle, cupboard, sofa set, bed, mattress, house, kitchen and dining utensils; rural household own 45 percent (5 items) in the assets portfolio.

4.3 Disaggregated Survey Results

Disaggregated results based on gender and age cohort in terms of female and male; young and old respectively, show; 71.7 percent men give priority to livelihood ‘pro-

poverty reduction' motives while 76.7 percent of women give priority to livelihood 'pro-poverty reduction' motives.

On the other hand 73.4 percent of young respondents (below 50 years) prefer livelihood 'pro-poverty reduction' saving motives while 82.8% of old respondents prefer same category of motives; whereas. 89.9 of young respondents prefer life cycle model of behaviour while 74.1 percent of old persons would chose the model. 85.8 percent women chose life cycle as model of behaviour while 85 percent men choose the same model. On choice and preference to which bequests are to be given: 77.8 percent men prefer to give their bequests to all children while 79.5 percent women all prefer to give bequests to all children. Similarly, 77.1 percent of young respondents chose to give bequests to all children while 96.6 percent of old responds have same choice.

On type of bequests for provision, 96 percent men prefer to give bequests such as social support e.g. education, treatment, food, marriage; economic support i.e. capital, investments/enterprises; and financial aid to orphans, disable persons, widows, sick persons, refugees e.t.c., 96.1 percent women also record similar bequests selection. Similarly, both young and old respondents at 95.9 percent and 96.6 percent respectively prefer providing same bequests above. Both age cohort and gender divide bequests into two groups (i) bequests that may actually be given while still alive *'inter vivos transfers'* such as education and (ii) bequests that may actually be given after death *'intergenerational transfers*' such as assets, investments etc. however, results show 84.3 percent of young generation prefer bequests being transferred after death while 100 percent of old have same preference with young

generation. Similarly, 86.3 percent men prefer bequest transfer after death while 84.7 percent women have same preference with men.

Of the four items namely entertainment and leisure, farm inputs and enterprises, home assets and education that respondents were asked to prioritize when using saving, 66.7 men prefer to use saving on education while 66.8 women also have same preference with men. Similarly, 67.1 percent young generation prefer using saving on education matter while 62.1 percent adults have similar preference with young persons. On issue of flexibility in regard to saving motives of choice, 48.7 percent young respondents are rigid to change their motives while 58.6 percent old respondents would rarely change motives of choice. Similarly, 53.4 percent women never change saving motives of choice while 41.3 percent men would rarely change motives of choice. 59.4 percent men use both saving and non saving to buy most of household assets while 52.6 percent women buy households using both saving and non saving. Similarly, 54.2 percent of young people use both saving and non saving to acquire assets while 82.8 percent of old people use same funds as young people to acquire personal assets.

Financial literacy including book-keeping, accounting, financial management and banking, 80.7 percent young people in rural have no basic knowledge on financial matters while 62.1 percent of the old respondents also are without the basic knowledge of finance. Similarly, 84.7 percent women in rural said they had no formal skills and knowledge related to finance while 74.5 percent men are also finance illiterates.

Table A4.37 shows saving motives of priority by sex and age arranged in preference manner, young people prefer following saving motives education motive; illness disaster or precautionary motive, retirement motive, business motive, extra living expenses motive, bequest motive, marriage motive, non specific motive, and leisure and entertainment motive.

On the other hand, old people prefer illness, disaster or precautionary motive, retirement motive, house and land motive, business motive, assets motive, taxes and loans motive, extra living expenses motive, marriage motive, non specific motive and leisure and entertainment motive. Similarly, men prefer following motives as arranged in preference of order: education motive, illness, disaster or precautionary motive, business motive, extra living expenses motive, taxes and loans motive, bequest motive, marriage motive, and leisure motive. On the other hand women prefer education motive, illness, disaster and precautionary motive, business motive, taxes and loans motive, extra living expense motive, bequest motive, marriage motive, non specific motive, leisure and entertainment motive.

4.4 Results of the Econometric Analysis

Logistic regression, which is also called logit model, is a form of regression that is used when the dependent variable is a dichotomy and the independent variables are of any type (Agresti, 1996). Binary logistic regression was the model of choice for testing relationship between dependent variable and independent variables of the study as provided in third objective of the study. Research dependent variable was nominal dichotomous in terms of *non livelihood* saving motives = 0 and *livelihood* saving motives = 1. The model was used because it is powerful and popular one in

social sciences especially in predicting a dependent variable on the basis of continuous and/ or categorical independent variables, determining the percent of variance in the dependent variable explained by the independent variables, gauging the impact of covariate control variables (which are otherwise called independent variables), and ranking the relative importance of independent variables.

Prediction of the dependent variable is done by computing the odds of the dependent variable occurring. The percent of variance in the dependent variable explained by the independent variables is determined by computing Cox & Snell R Square and Nagelkerke R Square, which are analogous to the coefficient of determination (R^2) in Ordinary Least Square (OLS) regression. Gauging the impact of independent variables on the dependent variable is done by observing the signs of the logistic regression coefficients (*B-values*), which bear negative or positive signs meaning negative or positive impact, respectively, on the dependent variable. The relative importance of independent variables is determined by observing the magnitudes of Wald statistics and their concomitant levels of significance, which test the significance of the *B-value* for each individual variable (Garson, 2008).

Ordinary Least Squares regression model was not used because it assumes that variables are linearly related while they are actually not, but logistic regression assumes no linear relationship among variables, thus it was a preferred model for this study which assumes no linear relationship existing between depend and independent variables. Logistic regression is of three types, namely *binary logistic regression*, *ordinal logistic regression*, and *multinomial logistic regression*. Multinomial logistic regression is a form of logistic regression that handles the case of dependent

variables with more than two classes. Ordinal logistic regression is a form of logistic regression that is preferred to multinomial logistic regression when multiple classes of the dependent variables can be ranked. The independent variables entered in the model were a mixture of ratio level and nominal level as seen in Table 4.5.

Table 4.5: Variables Entered in the Logistic Regression Model

Variable	Justification for inclusion	Level (and unit of measurement)
Poverty reduction saving motives	Was the dependent variable obtained by grouping the values of non livelihood saving motives e.g. leisure, entertainment, marriage and bequest (0) and livelihood saving motives e.g. education, house/land, assets, taxes and loans, business, retirement, extra living expenses, illness, (1)	Nominal dichotomous
Sex	Is considered to have some influence on prioritizing saving motives between men and women	Nominal dichotomous
Age cohort	Is one of the factors that influence prioritization of saving motives between young people and old people	Nominal
Education level	Is one of the factors affecting effective decisions making on saving motives	Ordinal
Marital status	Is one of the determinants of individuals' saving motives	Nominal
Dependants level	Is one of the factors affecting saving motives by an individual	Ordinal
Occupation	This factor influence decision on saving motives	Nominal
Income level	Is one of the factors affecting individuals' saving motives	Ordinal

Source: Field Data (2015)

After inputting the variables presented in Table 4.5 in the computer and performing binary logistic regression analysis using SPSS, the outputs are presented in Tables A4.1 to A4.85. It is worth noting here that only selected outputs have been presented.

Binary logistic regression outputs and the odds of being livelihood saving motives

One of the vital outputs of the binary logistic regression model was the case processing summary, which is presented in Table 4.6; it shows that 100% of the 510 cases were included in the analysis. The cases make 62.96% of the whole sample of 810 individuals used in the survey. These cases were selected on basis of fully response on the seven independent variables.

Table 4.6: Case Processing Summary

Un-weighted cases (n = 510)		%
Selected Cases	Included in analysis	100.0
	Missing cases	0
	Total	100.0
Unselected cases		0.0
Total		**100.0**

Source: Field Data (2015)

Another output was of the Omnibus test of the coefficients of the model. The Omnibus test is a test of the capability of all predictors (independent variables) in the model jointly to predict the response (dependent) variable. A finding of significance means that there is adequate fit of the data to the model and that at least one of the predictors is significantly related to the response variable (Garson, 2008). According to this explanation, and by looking at the results in Table 4.7, which shows that there was significance at the 0.001 level (*p=0.016*), the data entered into the model adequately fitted the model, and at least one of the predictors is significantly related to the response variable.

Table 4.7: Omnibus Test of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	23.265	11	0.016
	Block	23.265	11	0.016
	Model	23.265	11	0.016

Source: Field data (2015)

Moreover, the model summary, which is presented in Table 4.8 showing Cox & Snell R square and Nagelkerke R square, was chosen as an important output of the binary logistic regression model. The Cox-Snell R^2 and Nagelkerke R^2 attempt to provide a logistic analogy to R^2 in OLS regression; hence are called pseudo R^2. Nagelkerke R^2 is a modification of Cox-Snell R^2 to assure that Cox-Snell R^2 varies from zero to one, as does R^2 in OLS regression. If Cox-Snell R^2 is not modified, its maximum value is usually less than 1, making it difficult to interpret.

Table 4.8: Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	523.637	0.045	0.068

Source: Field data (2015)

Garson (2008) notes that Nagelkerke R^2 is normally higher than Cox-Snell R^2 and is the most-reported of the pseudo R^2 estimates. Therefore, based on the results in Table 4.8 which show that Nagelkerke R^2 was 0.068, it means that the independent variables entered in the model explained 6.8% of variance in the dependent variable.

The results of Hosmer and Lemeshow Test (Table 4.9) were another output of the model. The Hosmer and Lemeshow test, which is also called Hosmer and Lemeshow chi-square, is a test of goodness-of-fit of a logistic regression model, which works by

comparing the observed and fitted counts of values according to the estimated probabilities of success. The Hosmer and Lemeshow goodness-of-fit test divides subjects into deciles (as seen in Table 4.9) based on predicted probabilities, then computes a chi-square from observed and expected frequencies. A finding of non-significance means that the model adequately fits the data (Hosmer and Lemeshow, 1980, cited by Agresti, 2002).

In this study, the value of the Hosmer and Lemeshow chi-square obtained was 8.193, and it was not significant ($p = 0.415$), as seen in Table 4.9. Typically, in any case where the Hosmer and Lemeshow chi-square value is greater than 0.05, the goodness of fit is desirable (Garson, 2008). In such cases the implication is that the model's estimates fit the data at an acceptable level (Garson, 2008). Garson (2008) adds that this does not mean that the model necessarily explains much of the variance in the dependent variable, but that it explains the variance to a significant degree. Therefore, according to the explanation above, the model used in this study, which contained five explanatory variables and the response variable adequately fitted the data.

Other vital outputs of the model were Wald statistics, which are presented in Table 4.10, the Wald test is an alternative test which is commonly used to test the significance of individual logistic regression coefficients for each independent variable (that is, to test the null hypothesis in logistic regression that a particular effect coefficient is zero). The Wald statistic is the squared ratio of the unstandardized logistic coefficient to its standard error.

Table 4.9: Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	**8.193**	**8**	**0.415**

Contingency table for Hosmer and Lemeshow Test

		Respondent's priority motives category = non livelihood saving motives		Respondent's priority motives category = livelihood saving motives		Total
		Observed	**Expected**	**Observed**	**Expected**	
Step 1	1	20	20.563	31	30.437	51
	2	14	16.259	33	30.741	47
	3	14	10.494	19	22.506	33
	4	16	13.744	43	45.256	59
	5	13	9.919	34	37.081	47
	6	5	10.739	50	44.261	55
	7	12	11.885	50	50.115	62
	8	6	7.457	37	35.543	43
	9	10	9.068	47	47.932	57
	10	6	5.872	50	50.128	56

Source: Field data (2015)

For example in Table 4.10, the Wald statistic for education level that is 2.066 was obtained from the following relationship: $(1.264/0.879)^2$, which is equal to 2.066. Wald statistic corresponds to significant testing of β coefficients in Ordinary Least Square (OLS) regression. Wald coefficients associated with individual independent variables help us realise the relative importance of each independent variable. In other words, a Wald coefficient is a measure of the unique contribution of each independent variable in the context of the other independent variables and holding constant other independent variables. A bigger Wald statistic implies that the independent variable associated with it has high contribution to the occurrence of the dependent variable.

The effect, which can be negative or positive, of an independent variable on the dependent variable is denoted by the sign (negative or positive) of individual logistic regression coefficients (β-*value*) for the independent variable that is generated

concomitantly with the Wald statistic. A negative sign associated with a β coefficient shows that particular variable decreases the logit of the dependent variable (i.e. it decreases the probability that that event (in this case livelihood saving motives) will be realised, and vice versa. For example in Table 4.10, sex, age cohort, marital status, dependants level, occupation, and income level reduce chances of an individual to choose saving motives that reduce poverty since their *β-value* are associated with negative signs. By the same token, only one variable 'education level increases chances of individuals to chose saving motive that reduce poverty since they bear positive signs, however, there is no neutral variable in the model with no effect on poverty reduction saving motives since no variable with *β-value* equals 0.

Table 4.10: Variables in the Logistic Regression Equation

								95.0% C.I. for EXP(β)	
	Expected sign	β	S.E.	Wald	df	Sig.	Exp(β)	Lower	Upper
Sex		-0.225	0.231	0.947	1	0.330	0.799	0.508	1.256
Age cohort	+	-0.174	0.467	0.139	1	0.709	0.840	0.337	2.099
Education level	+	1.264	0.879	2.066	1	0.151	3.539	0.632	19.837
Marital status	+	-1.019	0.847	1.446	1	0.229	0.361	0.069	1.900
Dependants level	+	-0.249	0.266	0.876	1	0.349	0.780	0.463	1.313
Occupation	+	-1.746	0.777	5.055	1	0.025	0.174	0.038	0.799
Income level	+	-0.069	0.323	0.046	1	0.830	0.933	0.495	1.757
Constant		2.562	1.228	4.352	1	0.037	12.961		

Source: Field data (2015)

In order to be certain that certain explanatory variables are significantly important in affecting the variance of the response variable, both the *β-values* and the correlations should be significant. This requirement helps to contain the problem whereby

sometimes logistic regression coefficients are found to be significant when the corresponding correlations are found to be insignificant, and vice versa (Garson, 2008). The disparity of that nature is due to three main reasons, which are: (a) logistic coefficients are partial coefficients, controlling for other variables in the model, whereas correlation coefficients are uncontrolled; (b) logistic regression coefficients reflect linear and nonlinear relationships, whereas correlation coefficients reflect only linear relationships; and (c) a significant parameter estimate (b) means there is a relationship of the independent variable to the dependent variable for selected control groups, but not necessarily overall (Garson, 2008).

Based on this knowledge, occupation of an individual had the highest Wald statistic (5.055), however, it has negative *β-value* therefore it decreases the logit of the dependent variable; education level with Wald statistic (2.066) (*p=0.151*) is the only independent variable that increases the logit of the dependent variable that means it increases the probability of an individual to choose livelihood saving motives.

The Wald statistics shown in Table 4.10 are presented in Figure 4.1 to illustrate the extent to which each of them contributed to the probability of an individual to choose livelihood saving motives. Although all the Wald statistics in Table 4.10 are positive, except Wald statistics for education level rest of the Wald statistics for sex, age, marital status, dependants, occupation and income were given negative values for the sake of Figure 4.1 since their logistic regression coefficients (*β-values*) were negative implying that they had negative effects on the dependent variable.

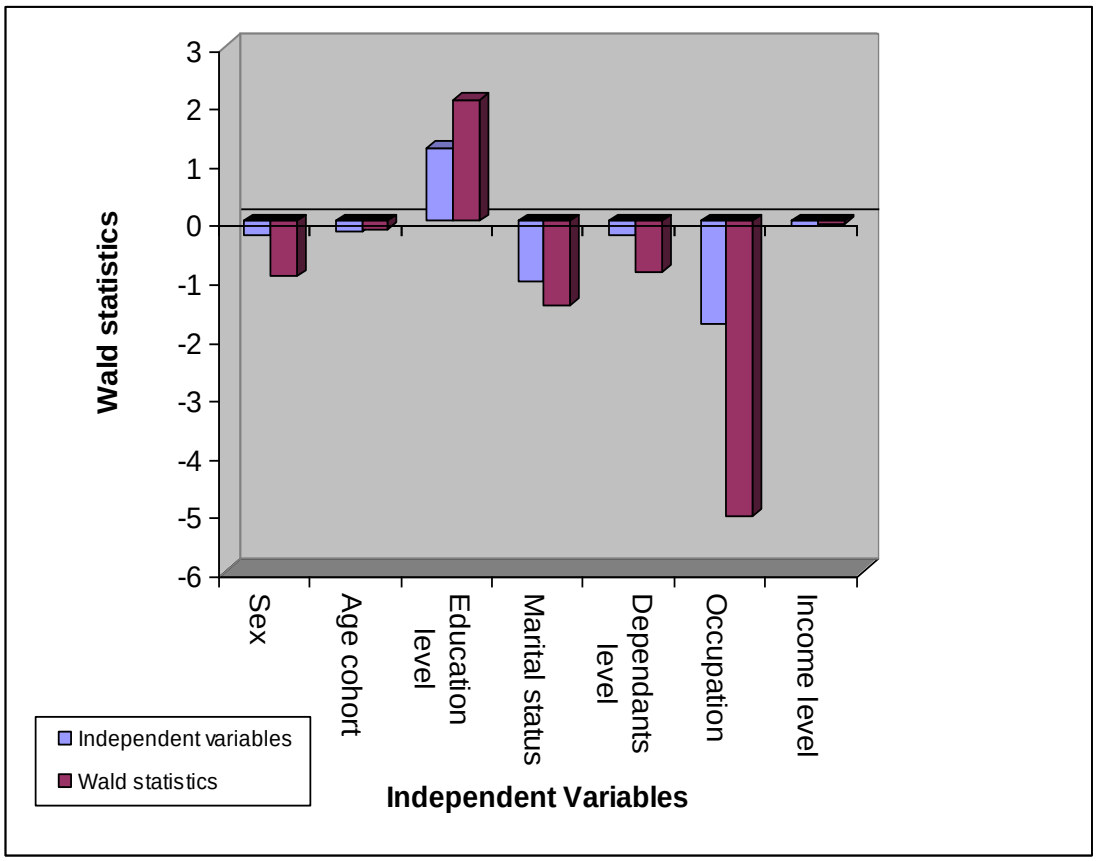

Figure 4.1: Independent Variables Contribution

Source: Field Data (2015)

According to the results presented in Table 4.10 and Figure 4.1, one easily realises that the most important variable that contributed positively to selection of livelihood saving motives was education. The magnitudes of effects of other independent variables on the dependent variable (saving motives) are as seen in Table 4.10 and Figure 4.1.

Chi-square tests

Table 4.11: Chi-Square Tests Results Summary

Chi-square Test	Result of significance (p=0.000)	Chi-square	Total Number	Observed Number	Expected number	Residual
Dominant Saving motive Category	livelihood motives	197.55	802	600	401.0	199.0
Dominant saving model	Life-cycle	1018.238	807	692	269.0	423.0
Bequest recipients	All children	2336.344	802	637	133.7	503.3
Flexibility on saving motives	Never	115.553	800	370	266.7	103.3
Time for bequest distribution	After death	453.812	788	693	394.0	299.0
Priority household saving motive	Education	2186.369	805	412	67.1	344.9

Source: Field data (2015)

Chi-square tests results in Table 4.11 show significance results to livelihood motives as the dominant category of saving motives; life-cycle is the dominant model of household saving motives; rural households prefer distributing bequests to all children; and majority of the respondents prefer actual transfer of bequests after death *'intergenerational transfer'*.

CHAPTER FIVE

DISCUSSION AND CONCLUSION

5.1 Introduction

Discussion and conclusion of the study on determinants of individual saving in rural Tanzania is based on outcomes of field data after analysis as presented in the previous chapter. This chapter discusses in detail the study results mainly addressing the four study objectives namely (i) Identify saving motives of rural households; (ii) Assess switching of saving motives; (iii) Determine association between saving motives and demographic characteristics; and (iv) Ascertain temporal dimension of bequest distribution between *in-vivos transfers* and *intergenerational* transfers. Also, the chapter discusses results of inferential analysis of the two hypotheses of the study are: (i) saving motives of rural households are rational, and (ii) rural households are rigid in switching off saving motives.

5.2 Discussion

5.2.1 Objective I: The Saving Motives of Rural Households

Study results show majority (85.4 percent) of rural people in Tanzania follow the life cycle model which means rural population saves primarily for lifetime needs including smooth consumption; education, business, consumer goods, and retirement etc other saving motives of importance are precautionary motives and bequests motives etc. It has been found that rural households are selfish similar to the results in a number of previous studies that test for the validity of various saving models in individual countries (for example, Bernheim (1991), Cox (1987), Hurd (1987),

Altonji, Hayashi, and Kotlikoff (1989) for the U.S. and Ohtake (1991), Ohtake and Horioka (1994), and Hayashi (1995) for Japan).

Focus group discussion: Motives for saving

In focus group discussions majority say 'we are poor and we mostly depend on farming which normally faces myriad challenges such as vagaries of weather (floods and draught), livestock and crop diseases, marketing issues etc. further, there are no financial and insurance services to help us solving our problems. Therefore, it is saving in good years that help to cushion bad years, but also some future expenditure requires higher income that necessitates household saving i.e. school fees, dowry or bride price, big purchases such as land, house or establishing business. We have a saying in Kiswahili that '*Akiba Haiozi'* meaning that saving never decay. However, in real sense we save very little due to the fact that our income is too little as such we nearly consume all income earned. But yet, we do save when we get bump harvest and we save in form of cash or other saving vehicles e.g. animals, crop produce, farm inputs etc '

85.4 percent of respondents reported lifecycle model as saving behaviour. When data is analyzed on gender basis both men and women equally chose this model, however, when the data is analyzed based on age group in terms of young and old there is a slight difference where 89.9 percent of young people chose life cycle model while old people choose dynast model. This implies changes in saving motives over time in terms of age; perhaps it is because under normal circumstance young people have many years ahead to live thus personal affairs in terms of social and economic obligations is major concern. On the other hand, old people would wish to perpetuate their family line (dynasty) as households survive beyond individual members or family business thus households save not only for the life cycle but also they are motivated by dynast considerations.

Results that rural households follow life cycle model is complemented by results on twelve priority motives whereby respondents provided views on saving motives

arranged in order of importance; study results show education motive receives first priority followed by illness and disaster (precautionary motive), house and land motive ranks third, retirement motive ranks fourth, business motive ranks fifth, assets motive ranks sixth, extra living expenses ranks seventh, taxes and loan repayment motive ranks eight, bequests motive ranks ninth, marriage motive ranks tenth, non specific motive ranks eleventh, and leisure and entertainment motive ranks twelfth.

5.2.2 Objective II: Switching of Saving Motives

Respondents were asked on views with regard to upholding of saving motives. Results show existence of both flexibility and inflexibility on saving motives. This implies that there are individuals who maintain consistency and would not change their saving motive course. Also, there are points in time households change original motives thus there is a degree of flexibility on the use of savings. On one hand it is important household not to change saving motives directly impact poverty such as education, business, assets, house, and land. While on the other hand it is undesirable maintaining motives that seem to have negative impact on poverty reduction such as marriage, leisure, entertainment.

Focus group discussion: Changing saving motives

It is childish changing good for bad, most groups say. We try not to change original reason for use of our saving but there are circumstances forcing us switching off original motives for saving. For example, when we save for buying household assets there may occur an incidence that needs immediate attention such as accidents, illness, funeral, fees etc these events will however result into dropping the original motive 'buying household assets' in order to use such saving for the unforeseen incidences.

The other reason leading to misappropriation of our saving is the fact that we keep our saving under the mattress at home, when money accumulate it is very tempting such that household may decide using the saving to activities not planned for. If there are financial institutions in our place we could save and keep our money into a bank for specific fixed period of time, our money will be safe and we can have discipline to use our saving on planned activities.

Therefore, flexibility on saving motives has both merits and demerits depending on what type of motives are being switched off or switched on.

When household selects livelihood motives it is undesirable being flexible on these motives as the household switches to non livelihood motives. On the other hand if individual swaps non livelihood motives for livelihood motives this flexibility is beneficial with regard to household poverty reduction. Further, results show more rigidity to switching off saving motives in women than men; it means men are quick to changing their minds than women in regard to saving motives. One reason why men are flexible could be because in most African culture men are heads of families and handle diverse issues that may need diverse and quick responses mostly with some financial implications. On similar issue, results show young people are more rigid on saving motives than old people who are a bit flexible. Mostly young people may be pursuing life objectives that requires financial discipline compared to old people whom by virtue of age may be somewhat flexible in their last years. further investigation is needed to explain these observations and characteristics.

5.2.3 Objective III: Association between Saving Motives and Socio-Economic Characteristics

Focus group discussion: Saving knowledge

I started saving after learning from my parents and relatives on the importance of saving, said most individuals in focus group discussions. Before that I was not saving since I believed that death may occur anytime therefore I must consume all my money which I actually get after too much sweating. Others said, we did not save because we had no idea what to use with our savings; I did not save because I didn't know where to keep safe my money but I learned from fellow farmers that if I join a SACCOS I would then keep my money with the SACCOS then with my saving I could borrow more money from the SACCOS. We think that knowledge of saving is important and most of us were not saving until when we learned how to save, importance of saving, where to keep our saving, and the proper use of saving.

Binary logistic regression model was used to estimate the relationship between saving motives and household socio-economic characteristics such as age, sex, marital status, and occupation, number of dependents, education and income. The data in Table 4.10 and Figure 4.1 show education is the only independent variable positively correlated with the dependent variable that means education level increases probability of household choosing saving motives that reduce poverty. On the other hand, the results show that rest of the predictors namely sex, age, marital status, dependants, occupation and income do not increase chances of household choosing livelihood saving motives, however, study results show that these variables would probably increase chances of household choosing non livelihood saving motives. The results suggest that education is a key factor to making rational decisions on saving motives.

5.2.4 Odds Ratios

Unlike the odds that are a mere probability of an event occurring, the odds ratio is the natural log base, e, to the exponent, β, where β is the parameter estimate. For example in Table 4.10, the odds ratio (Exp (β)) for education level that is 3.539 has been obtained from the following relationship: $e^{1.264} = 2.718^{1.264} = 3.539$. The "Exp(β)" column is SPSS's label for the odds ratios of the row independent variables vis-à-vis the dependent variable (saving motives). The odds ratio is the predicted change in the odds for a unit increase in the corresponding independent variable. Odds ratios less than 1 correspond to decreases in the odds; odds ratios more than 1.0 correspond to increases in the odds; an odds ratio equal to 1.0 means that the respective independent variable has no effect on the dependent variable; and an odds

ratio close to 1.0 means that the respective independent variable almost has no effect on the dependent variable (Wuensch, 2008).

The odds ratio for a given independent variable represents the factor by which the odds (event, in this research saving motives) change for a one-unit change in the independent variable. In this example, each increase in level of education increases (because β is positive) the odds of choosing livelihood saving motives (because 0 = non livelihood saving motive and 1 = livelihood saving motives) by a factor of about 3.539, controlling for other variables in the model.

5.2.5 Objective IV: Bequests Distribution in the Light of in *vivos transfers* and *intergenerational transfers*

Study result shows majority of rural households do provide bequests to all their children. Also, study results show that some bequests are distributed when individual is still alive; while on the other hand there are some bequests that are practically distributed after death. Therefore, both *intergenerational transfers* and *in vivos transfers* are practiced by rural households however depending on type of bequests. Mostly, assets, land and investments are mainly given after death whereas bequests that are in form of social grants e.g. marriage and education, financial aid are provided while still alive. This condition approves the situation that people are selfish and that they are not ready to provide crucial economic support systems to others in form of bequests while still alive. Where wealth is held up until such time one dies this may cause income inequality as some individual remain rich and do not want to distribute part of their richness to the poor in need of assistance to finance education and other livelihood support systems.

Focus group discussion: Bequest distribution

Responding to bequest distribution, most individuals in focus group discussions say, our parents saved and while still alive they paid for our education, bride price, dowry but they did not actually give house, land, valuable assets before death. Yes, some parents divided and distribute bequests among family members but these bequests remain under their control until after death. Also, in the focus group discussions it came out clearly that 'culture' normally play major influence on who receiving what and when in terms of bequests. There were some bequests designated according to gender, birth status in terms of first born and last born, child behaviour, relationship and disability of bequests recipient. Also, in the discussion, it was clear that bequests were among reasons for some family conflicts and wealth inequalities among family members, communities and society.

Based on gender, results show majority of both men and women equally practice *intergenerational transfers* and *in vivos transfer* of bequests. However, based on age cohort, results show 100 percent of old people surveyed prefer giving bequests after death. This may be explained by the fact that old people remain with fewer years to life therefore would prefer transferring bequests after death. Transferring bequests after death may however cause social conflicts where family members disagree on bequest division.

5.2.6 Hypothesis I: Saving Motives of Rural Households are Rational

The hypothesis that rural people give priority to rational saving motives contributing to poverty reduction was tested by Chi-Square test statistic (X^2) at 5 percent significance level using SPSS. Result (*p=0.000*) validates null hypothesis implying that rural people also undertake initiatives towards poverty alleviation. Similarly, the result suggests that rural people are making right decisions to fight poverty. Saving motives that contribute to poverty reduction include business motive, retirement motive, precautionary motive, education motive, house motive, land motive, assets motive, extra living cost motive, taxes and loan repayment motive; on the other hand

saving motives that do not contribute to poverty reduction are leisure and travel motive, luxury motive, entertainment motive, wedding motive, and funeral motive.

Focus group discussion: Saving for livelihood

Focus group discussions general response on saving for livelihood; Indeed, most of us save in order to buy agricultural inputs such as fertilizers, pesticides, herbicides, seeds, farming implements; saving help us to open micro enterprises, we use savings to pay fees for our school children, saving help us accessing heath facilities to keep us healthy for production. Saving help us buying household assets like bicycle, radio, mattress, beds, chairs, tables, cooking items, food etc. however, there are traditional and natural events like weddings, funerals etc where we also spend our savings. But there are few people who use their saving for buying drinks and other luxurious activities. We do not encourage that since it makes them even poorer compared to those who use saving on livelihood activities.

The study finds prioritization to be one of the factors causing differences in level of poverty among households. There are households switching good for bad in the sense that they embark on non livelihood motives leaving behind livelihood saving motives. However, study found that very little is saved by rural households as such savings are too little to impact poverty in both social and economic dimensions. This explain chronic abject poverty in rural areas despite saving by households.

5.2.7 Hypothesis II: Rural Households do not Switch off Saving Motives

This study found that only 15.9 percent of respondents were ready to change their saving motives frequently. However, while 37.2 percent of the respondents said would rarely change their saving motives 45.7 percent of the respondents said they would never attempt to change original motives.

The hypothesis that rural people do not switch off saving motives is tested by chi-square test statistic using SPSS version 16.0 application. Study result of *p=0.000;*

Chi-square 115.553; total number of respondents 800; observed 370; expected 266.7; and residuals 103.3 approves the null hypothesis that means rural people are consistent with motives of their savings. This result is justified by the type of saving motives of respondents revealed by the study results which is livelihood motives. It means that rural people choose important motives for saving such that given importance of needs for saving rural people may not easily attempt to change them. For example a household that saved money to support education of their children cannot switch this motive to use such savings for entertainment e.g. birthday party.

5.2.8 Other Findings

Results show that rural people are also concerned with retirement or when they are very old thus they keep money for use in future when they are no longer active in doing business and/or labour market. However, it is argued here that trivial financial institutions in rural areas pose some challenges. For example it is difficult for household especially young people in twenties to keep money at home for years until retirement at sixty.

85 percent of the respondents practice life-cycle model that means they postpone current consumption by saving part of income for various life activities including smoothing consumption, business, purchase of durables, retirement etc. as financial and insurance markets are not well established in rural areas in Tanzania, therefore, this result is consistent with life-cycle theory that in the absence of financial services, social schemes and insurance services households tend to keep savings for use after retirement in order to maintain consumption level.

Focus group discussion: Retirement motive

Majority in the focus group discussions agree that although it is difficult for a poor person keeping money until retirement as on one hand there are no financial institutions which can keep their money until retirement while on the other hand when unforeseen incidences such as illness, theft, death etc households mostly spend all savings.

They say, we think it is good keeping money for use in old age during when we are not able to do farming activities and we cannot work for salaries or wages. Traditionally, in most cases we depend on our children in old ages but this sometimes it doesn't work as children may be poor such that they can't help much; some may have no children at all, children may stay far away such that sending remittances becomes difficult especially in the past where we used not to receive money via mobile phones like today we receive remittances from our children in urban and Diaspora via cellular networks like M-Pesa (VODACOM), Tigopesa (TIGO), Airtel Money (AIRTEL), HALOTEL etc

Also results show households mostly use a combination of savings and income to do purchases. This situation implies that households are in constant financial constraint whereby in many cases they need supplementary money to make big purchases. Similarly, rural poverty could be the reason for small saving as poor transport and infrastructure contribute to high prices thus affecting affordability by rural households. Also, results show that both men and women use savings and non savings income to buy assets. Old people mostly use savings and non savings income to buy assets than young implying that old people have enough cash accumulated over time.

Lack of financial literacy is characterized by rural households, whereby 79.4 percent of respondents are having no formal training on financial management. When men are compared to women the latter are more illiterate. As young people compared to old people the former is more illiterate implying lack of experience on financial matters by young people. This may be due to lack of courses on commerce, bookkeeping (finance) in school and colleges curricula.

Study reveals that rural household own about 30 percent items in asset portfolio presented in study questionnaire: radio, television, motorcycle, car, refrigerator, bicycle, cupboard, sofa set, beds, and mattress, house and kitchen utensils. Both low assert portfolio and low saving prove existence of rural poverty. As such rural households have low income thus very little if any is saved. Albeit amount saved cannot afford buying assets as mostly savings are used for the purchase of food and precautionary purposes. Lack of electricity may also be disincentive buying electricity powered assets.

5.3 Conclusion

5.3.1 Main Findings

The study on the determinants individual saving in rural Tanzania reveals several facts. To summarize the main findings of this study, firstly, virtually people of all gender and age category in rural areas practice life cycle model of saving behaviour. Therefore, households keep saving for use in future for various purposes such as smoothing consumption, precautionary, purchase of durables, education, retirement e.t.c. when they are no longer active in economic production.

Secondly, rural people especially women and young generation are relatively firm on motives for saving such that they do not easily switch preset motives. Thirdly, there is no significant evidence of relationship between saving motives and socioeconomic characteristics in terms of age, sex, marital status, occupation, dependants, education and income of individuals in rural. Results show less influence of demographic characteristics on saving motives. Rural households practice both *intergenerational transfers* and *in vivos transfers* whereby depending on type of bequests, rural

households distribute bequests before and after death. The study results are highly consistent with key underlying theories and previous empirical findings on household behaviour.

5.3.2 Policy Implications

There is policy implications associated with major findings of this study elaborated above. Low saving by rural household implies poverty interventions are far from lifting up rural population from chronic poverty as such rural population is without sufficient income to save. Saving being mostly used for precautionary motives implies inadequate social schemes and insurance services in rural areas. This means that rural population has no advantage of using social schemes and insurance services thus leaving or freeing savings for use on other livelihood aspects. Rural population is financial illiterate and lacks potential entrepreneurship skills implying that education policy may be facing both qualitative and quantitative challenges as many of respondents had primary education. Lack of entrepreneurial skills by households as such contributes the macroeconomic –microeconomic mismatch since rural population seems to lack critical skills to tap economic potentials from the stead macroeconomic performance.

Lack of financial institutions in rural areas has an implication on the effectiveness of rural finance policy. The findings suggest that rural finance policy has so far not been effective enough to bolster provision of financial services in the rural. Thus rural population does not have ample opportunities accessing financial resources which in turn could bridge the gap for low saving thus increase supply of financial resources needed to undertake profitable and rewarding economic activities. Further,

where financial institutions operate, restrictive conditions on accessing financial resources curtail rural household from accessing loans and credits needed for tangible rural investments capable of reducing poverty.

5.3.3 Recommendations

Based on the findings, the study offers some recommendations for improved rural households saving behaviour and welfare to help moving out of poverty.

Firstly, as the majority in rural lack basic knowledge on financial management (study findings show 79.4 percent) it is therefore recommended to provide entrepreneurship and financial education to rural population. This will help rural people to be able to manage finances well and also to make use of the savings on activities with quick positive results. Lack of financial education and entrepreneurship may result into irrational decision making hence using savings on activities that do not reduce poverty *per se* through mismanagement and misappropriation of saved money.

Secondly, the study recommends speeding up introduction of formal financial services through financial institutions such as RUSSACCOS, community banks and microfinance institutions in order to provide financial services to rural population. This will provide opportunities accessing extra financial resources thus helping households to acquire adequate financial resources to undertake economic activities capable of eradicating poverty. Conventionally, lack of finance is chronic factor affecting investments in rural areas where farmers are without sufficient funds to be able to acquire modern farming inputs such as seeds, fertilizers, chemicals,

machinery etc, marketing access, and modern technologies; also households lack funds to invest in some off farm activities in rural areas.

Thirdly, climate change and vagaries of weather affect rural farming which is the major economic activity; therefore it is recommended introducing agricultural insurance in rural areas protecting farmers from natural disastrous and fatal crop and livestock diseases. Conventionally, insurance services are predominant of urban areas whereby rural households remain without alternative vis-à-vis unforeseen risks and uncertainties.

Fourth, the researcher recommends establishment of social schemes such as pension funds and social security funds in rural areas. This will help the rural households to maintain consumption after retirement and therefore use savings on productive investments such as farm businesses and off farm businesses (shops, carpentry, tailoring, pottery, and knitting). In the absence of social schemes rural households tend to keep savings for use after retirement but at the expense of promotion of economic activities during active years before retirement.

Fifth, emphasis on the importance of writing a will before death is recommended to avoid social conflicts that may come up when household members disagree on bequest division. The study finds that intergenerational transfer is practiced in rural areas with important economic items such as land, house, and machinery are normally provided after death. Writing a will serves two important purposes (i) lessening chances for conflicts among household members, (ii) may necessarily avoid wealth inequalities if bequests are distributed equitably.

Sixth, study recommends saving promotion through introduction of tax incentives for saving in rural. This will increase gain on saving on one hand thus encouraging household saving on the other hand.

5.3.4 Suggested Areas for Further Study

Despite its importance, inadequate funding of research is common in many developing countries including Tanzania. However, the fact that research brings new facts and innovations for socio-economic, scientific and technological development, therefore, the study on determinants of rural households saving in Tanzania suggests some areas for further investigations.

Firstly, bequests being one of the saving motives it is suggested that further research on bequests especially on division and distribution for an assessment of its impact on income disparities among household members and the society as a whole. Where inequalities exist in bequest distribution it is likely to create income inequalities to household members thus creating social classes and strata in form of those who have and have not.

Secondly, study suggests undertaking further research on determinants of rural household saving on the supply side or level of saving. This is important since it establishes parameters capable of triggering the level of saving. While on one hand level of saving establishes an average amount saved by rural household, on the other hand the saving motives establishes the purpose for saving which was the central point for this particular study. However, study on both level and use of savings are

equally important since amount saved and use of saving can contribute to poverty reduction.

Thirdly, comparative study on saving motives between urban and rural is hereby suggested. Comparative study on rural household vis-à-vis urban household will show variations due to spatial, cultural and economic dimensions. Findings would then demonstrate possibility for synergies and complementarities leading into mutual gains thereof. Comparative study among regions within country or neighboring countries and regional blocks are also recommended for innovations, lessons and best practices for adoption.

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APPENDICES

Appendix 1: A Survey Questionnaire

Dear esteemed respondent,

I am a student pursuing Ph.D. Program at The Open University of Tanzania. The university statutes and regulations require undertaking in-depth academic research for this programme. Currently, I am collecting field data related to study on Determinants of Rural Household Saving in Tanzania, therefore, you are requested to feel at ease and to provide frank and honest views without fearing any persecution or disclosure. Information collected will be treated with confidentiality

I thank you for your kind cooperation.

Date ……

Village……Ward……
…

District……Region……..
…….

A. Background Information

1. Sex of a respondent…….male/female
2. Age of a respondent…….(years)
3. Level of education/training……
4. Marital status: married/single/widow/divorce/separated

5. Number of

   dependants…….

6. Occupation of a respondent: Farm, employment, off farm activities
7. Monthly income estimate……. …..

B. Saving motives information

1. Do you save?….yes/no; if yes how long have you been saving

   ?.....(years)

2. Where do you keep your saving?

   a. Home;

      why…….

   b. Bank;

      why……

   c. SACCOS;

      why…….

   d. Others-specify……..why……

3. Rank the saving motives in table below according to priority

No	Saving motive	Rank
1	Retirement motive	
2	Extra living expenses motive	
3	Illness or disaster motive	

4	Education motive	
5	Marriage motive	
6	House and land motive	
7	Assets /durable goods motive	
8	Leisure motive	
9	Taxes /loan motive	
10	Business motive	
11	Non specific motive	
12	Bequest motive	
13	Others	

4. What model of behaviour is most applicable to you in terms of saving?
    a. Smooth consumption, assets, retirement (Life cycle model)
    b. Saving in order to maintain family name and business (Dynast model)
    c. Giving saving to people in need (Altruism model)

5. Who is considered for bequests?

No	Bequests receiver(s)	Intergenerational transfers (items)	Inter vivos transfers (items)
1	all children		
2	first born or a child that will take up family name/leadership		

3	only children close/living and/or providing support to parents		
4	members of extended family (relatives)		
5	any person (s) living with parents other than children and members of extended family (relatives)		
6	people in need of help e.g sick, disabled, widows, orphans etc		
7	institutions/organizations (public or private)		
8	Others (specify)		

6. when bequests are distributed

No	Bequest	While still alive	After death
1	Social support e.g Education, treatment, food, marriage		
2	Economic support e.g capital,		
3	Assets: house, household items, car etc		
4	Existing Investments e.g. shop,		
5	Financial aid / assistance given to non family members		
6	Others (specify)		

7. What item receives first priority when using saving?
    a. entertainment
    b. agricultural inputs/enterprise investments
    c. home assets
    d. education
    e. others

    (specify)……

8. How often do you change your saving motives?
    a. never
    b. rarely
    c. frequently
9. Household assets portfolio

No	**Asset**	**Source of fund for Purchase: 1-saving, 2-non saving, 3-both 1 & 2**
1	Radio	
2	Television	
3	Motorcycle	
4	Car	
5	Refrigerator	
6	Bicycle	
7	Cupboard	
8	Sofa seats	

9	Bed	
10	Mattress	
11	House	
12	Kitchen & dinning utensils	

10. Knowledge of financial management

    a. High

    b. Medium

    c. Low

    d. none

Appendix 2: Focus Group Discussion Format

Verbal consent to participate in focus group:

You have been requested to participate in a focus group discussion. The purpose of this discussion is to gain an understanding of rural household saving behaviour in Tanzania being my academic study. Knowledge generated may be used by various stakeholders for good end results. You can choose whether or not to participate in the focus group and may stop any time. All responses will remain anonymous and no names will be mentioned in the report. There are not right or wrong answers to these questions. I want to hear many different viewpoints and would like to hear from everyone. You are requested to feel at ease and to provide frank and honest views without fearing any persecution or disclosure.

1. tell me what would be the reasons for or use of saving and when to use saving?
2. what is your views on changing reasons for saving and why changing motives or not changing motives of saving?
3. does education help influencing the saving behaviour?
4. are saving important during old age or after retirement?
5. how bequests are distributed in terms of what is bequeathed , who receives bequests and when to receive bequests?
6. in which form and where you keep saving ?
7. when do you use saving ?
8. are livelihood motives or life-cycle motives for saving important ?
9. is there anything else you would like to say about saving?

Appendix 3: Letter of Introduction

Isaack M. Mchumi
P.O.BOX 61689
Dar es Salaam
Mobile: 0754 843414
Email: lenatai@yahoo.com
Date: ……

Ref: IMM/PHD/DATA/2011

……

…….

Dear Sir/ Madam,

Re: Request for Permission to Collect Primary Data for Academic Research

I am a student pursuing Ph.D. Program at The Open University of Tanzania my registration number is ***HD/A/168/T.09***. As part of my studies, I am undertaking a cross-sectional survey on Determinants of Rural Household Saving in Tanzania. Therefore, I hereby request for permission to collect data in your esteemed district. Further, I would like to introduce **Mr Stanley Melack** field assistant whom and I will collect the data.

I hereby affirm that, respondents' information will be treated as confidential and will be used for academic purpose only.

Thank you for the assurances of my highest consideration.

Sincerely,

Isaack M. Mchumi

Appendix 4: Results and Statistical Tables

Table A4.1: Sex of a Respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	424	52.3	52.3	52.3
	Female	386	47.7	47.7	100.0
	Total	810	100.0	100.0	

Table A4.2: Age group of respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1	.1	.1	.1
	young	751	92.7	92.7	92.8
	old	58	7.2	7.2	100.0
	Total	810	100.0	100.0	

Table A4.3: Education level of a respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		97	12.0	12.0	12.0
	Primary school	508	62.7	62.7	74.7
	Secondary school	180	22.2	22.2	96.9
	College	25	3.1	3.1	100.0
	Total	810	100.0	100.0	

Table A4.4: Marital status of a respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		3	.4	.4	.4
	Married	432	53.3	53.3	53.7
	Single	293	36.2	36.2	89.9
	Widow	30	3.7	3.7	93.6
	Divorced	25	3.1	3.1	96.7
	Separated	27	3.3	3.3	100.0
	Total	810	100.0	100.0	

Table A4.5: Occupation of a respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		65	8.0	8.0	8.0
	Self employment in farm/off farm activities	705	87.0	87.0	95.1
	Employment in public/private sector	40	4.9	4.9	100.0
	Total	810	100.0	100.0	

Table A1.6: Where do you keep saving

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		5	.6	.6	.6
	Home	342	42.2	42.2	42.8
	Bank	462	57.0	57.0	99.9
	Saccos	1	.1	.1	100.0
	Total	810	100.0	100.0	

Table A4.7: Why keeping saving at home

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		472	58.3	58.3	58.3
	No beuracracy in terms of procedures	121	14.9	14.9	73.2
	safety reasons	2	.2	.2	73.5
	small amount	215	26.5	26.5	100.0
	Total	810	100.0	100.0	

Table A4.8: Why keeping saving with bank or saccos

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		386	47.7	47.7	47.7
	safety	423	52.2	52.2	99.9
	combination	1	.1	.1	100.0
	Total	810	100.0	100.0	

Table A4.9: What is your first saving motive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		5	.6	.6	.6
	retirement	26	3.2	3.2	3.8
	Business	72	8.9	8.9	12.7
	Non specific	2	.2	.2	13.0
	Bequests	7	.9	.9	13.8
	Extra living expenses	14	1.7	1.7	15.6
	Illness or precaution	75	9.3	9.3	24.8
	Education	412	50.9	50.9	75.7
	Marriage	6	.7	.7	76.4
	House / land	126	15.6	15.6	92.0
	Assets	57	7.0	7.0	99.0
	Leisure & entertainment	4	.5	.5	99.5
	Taxes or loan repayment	4	.5	.5	100.0
	Total	810	100.0	100.0	

Table A4.10: What is your second saving motive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		6	.7	.7	.7
	retirement	54	6.7	6.7	7.4
	Business	93	11.5	11.5	18.9
	Bequests	14	1.7	1.7	20.6
	Extra living expenses	39	4.8	4.8	25.4
	Illness or precaution	234	28.9	28.9	54.3
	Education	106	13.1	13.1	67.4
	Marriage	5	.6	.6	68.0
	House / land	155	19.1	19.1	87.2
	Assets	88	10.9	10.9	98.0
	Leisure & entertainment	2	.2	.2	98.3
	Taxes or loan repayment	14	1.7	1.7	100.0
	Total	810	100.0	100.0	

Table A4.11: What is your third saving motive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		6	.7	.7	.7
	retirement	144	17.8	17.8	18.5
	Business	123	15.2	15.2	33.7
	Non specific	1	.1	.1	33.8
	Bequests	16	2.0	2.0	35.8
	Extra living expenses	44	5.4	5.4	41.2
	Illness or precaution	163	20.1	20.1	61.4
	Education	71	8.8	8.8	70.1
	Marriage	4	.5	.5	70.6
	House / land	97	12.0	12.0	82.6
	Assets	98	12.1	12.1	94.7
	Leisure & entertainment	3	.4	.4	95.1
	Taxes or loan repayment	40	4.9	4.9	100.0
	Total	810	100.0	100.0	

Table A4.12: What is your fourth saving motive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		6	.7	.7	.7
	retirement	115	14.2	14.2	14.9
	Business	121	14.9	14.9	29.9
	Non specific	3	.4	.4	30.2
	Bequests	34	4.2	4.2	34.4
	Extra living expenses	78	9.6	9.6	44.1
	Illness or precaution	132	16.3	16.3	60.4
	Education	53	6.5	6.5	66.9
	Marriage	9	1.1	1.1	68.0
	House / land	101	12.5	12.5	80.5
	Assets	93	11.5	11.5	92.0
	Leisure & entertainment	7	.9	.9	92.8
	Taxes or loan repayment	58	7.2	7.2	100.0
	Total	810	100.0	100.0	

Table A4.13: What is your fifth saving motive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		7	.9	.9	.9
	retirement	120	14.8	14.8	15.7
	Business	129	15.9	15.9	31.6
	Non specific	8	1.0	1.0	32.6
	Bequests	51	6.3	6.3	38.9
	Extra living expenses	65	8.0	8.0	46.9
	Illness or precaution	100	12.3	12.3	59.3
	Education	36	4.4	4.4	63.7
	Marriage	12	1.5	1.5	65.2
	House / land	103	12.7	12.7	77.9
	Assets	95	11.7	11.7	89.6
	Leisure & entertainment	3	.4	.4	90.0
	Taxes or loan repayment	81	10.0	10.0	100.0
	Total	810	100.0	100.0	

Table A4.14: What is your sixth saving motive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		7	.9	.9	.9
	retirement	87	10.7	10.7	11.6
	Business	112	13.8	13.8	25.4
	Non specific	4	.5	.5	25.9
	Bequests	62	7.7	7.7	33.6
	Extra living expenses	128	15.8	15.8	49.4
	Illness or precaution	54	6.7	6.7	56.0
	Education	32	4.0	4.0	60.0
	Marriage	10	1.2	1.2	61.2
	House / land	70	8.6	8.6	69.9
	Assets	122	15.1	15.1	84.9
	Leisure & entertainment	4	.5	.5	85.4
	Taxes or loan repayment	118	14.6	14.6	100.0
	Total	810	100.0	100.0	

Table A4.15: What is your seventh saving motive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		8	1.0	1.0	1.0
	retirement	83	10.2	10.2	11.2
	Business	87	10.7	10.7	22.0
	Non specific	3	.4	.4	22.3
	Bequests	90	11.1	11.1	33.5
	Extra living expenses	150	18.5	18.5	52.0
	Illness or precaution	23	2.8	2.8	54.8
	Education	34	4.2	4.2	59.0
	Marriage	19	2.3	2.3	61.4
	House / land	80	9.9	9.9	71.2
	Assets	91	11.2	11.2	82.5
	Leisure & entertainment	4	.5	.5	83.0
	Taxes or loan repayment	138	17.0	17.0	100.0
	Total	810	100.0	100.0	

Table A4.16: What is your eighth saving motive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		8	1.0	1.0	1.0
	retirement	92	11.4	11.4	12.3
	Business	32	4.0	4.0	16.3
	Non specific	14	1.7	1.7	18.0
	Bequests	139	17.2	17.2	35.2
	Extra living expenses	163	20.1	20.1	55.3
	Illness or precaution	13	1.6	1.6	56.9
	Education	29	3.6	3.6	60.5
	Marriage	50	6.2	6.2	66.7
	House / land	45	5.6	5.6	72.2
	Assets	67	8.3	8.3	80.5
	Leisure & entertainment	7	.9	.9	81.4
	Taxes or loan repayment	151	18.6	18.6	100.0
	Total	810	100.0	100.0	

Table A4.17: What is your ninth saving motive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		8	1.0	1.0	1.0
	retirement	49	6.0	6.0	7.0
	Business	19	2.3	2.3	9.4
	Non specific	72	8.9	8.9	18.3
	Bequests	232	28.6	28.6	46.9
	Extra living expenses	96	11.9	11.9	58.8
	Illness or precaution	4	.5	.5	59.3
	Education	15	1.9	1.9	61.1
	Marriage	113	14.0	14.0	75.1
	House / land	14	1.7	1.7	76.8
	Assets	56	6.9	6.9	83.7
	Leisure & entertainment	15	1.9	1.9	85.6
	Taxes or loan repayment	117	14.4	14.4	100.0
	Total	810	100.0	100.0	

Table A4.18: What is your tenth saving motive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		8	1.0	1.0	1.0
	retirement	20	2.5	2.5	3.5
	Business	13	1.6	1.6	5.1
	Non specific	180	22.2	22.2	27.3
	Bequests	121	14.9	14.9	42.2
	Extra living expenses	18	2.2	2.2	44.4
	Illness or precaution	5	.6	.6	45.1
	Education	8	1.0	1.0	46.0
	Marriage	313	38.6	38.6	84.7
	House / land	5	.6	.6	85.3
	Assets	33	4.1	4.1	89.4
	Leisure & entertainment	30	3.7	3.7	93.1
	Taxes or loan repayment	56	6.9	6.9	100.0
	Total	810	100.0	100.0	

Table A4.19: What is your eleventh saving motive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		9	1.1	1.1	1.1
	retirement	9	1.1	1.1	2.2
	Business	5	.6	.6	2.8
	Non specific	369	45.6	45.6	48.4
	Bequests	23	2.8	2.8	51.2
	Extra living expenses	7	.9	.9	52.1
	Education	2	.2	.2	52.3
	Marriage	240	29.6	29.6	82.0
	House / land	6	.7	.7	82.7
	Assets	2	.2	.2	83.0
	Leisure & entertainment	124	15.3	15.3	98.3
	Taxes or loan repayment	14	1.7	1.7	100.0
	Total	810	100.0	100.0	

Table A4.20: What is your twelfth saving motive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		11	1.4	1.4	1.4
	retirement	3	.4	.4	1.7
	Non specific	145	17.9	17.9	19.6
	Bequests	12	1.5	1.5	21.1
	Extra living expenses	2	.2	.2	21.4
	Marriage	20	2.5	2.5	23.8
	House / land	3	.4	.4	24.2
	Assets	1	.1	.1	24.3
	Leisure & entertainment	607	74.9	74.9	99.3
	Taxes or loan repayment	6	.7	.7	100.0
	Total	810	100.0	100.0	

Table A4.21: Respondent's priority motives category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		8	1.0	1.0	1.0
	Livelihood motives	600	74.1	74.1	75.1
	non livelihood motives	202	24.9	24.9	100.0
	Total	810	100.0	100.0	

Table A4.22: Respondent's preferred saving model

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		3	.4	.4	.4
	Life cycle	692	85.4	85.4	85.8
	Dynast	110	13.6	13.6	99.4
	Altruism	5	.6	.6	100.0
	Total	810	100.0	100.0	

Table A4.23: Whom a respondent plan to give Bequests

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		8	1.0	1.0	1.0
	All children	637	78.6	78.6	79.6
	First born	109	13.5	13.5	93.1
	Children close to parents	7	.9	.9	94.0
	All relatives	42	5.2	5.2	99.1
	any person close	5	.6	.6	99.8
	Vulnerable persons	2	.2	.2	100.0
	Total	810	100.0	100.0	

Table A4.24: Type of bequests distributed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		31	3.8	3.8	3.8
	charities	1	.1	.1	4.0
	combination/all	778	96.0	96.0	100.0
	Total	810	100.0	100.0	

Table A4.25: Actual bequests transfer period

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		22	2.7	2.7	2.7
	while still alive (inter vivos transfers)	95	11.7	11.7	14.4
	after death (inter generational transfers)	693	85.6	85.6	100.0
	Total	810	100.0	100.0	

Table A4.25: Items given first priority for saving

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		3	.4	.4	.4
	entertainment	7	.9	.9	1.2
	inputs/enterprise	207	25.6	25.6	26.8
	assets	52	6.4	6.4	33.2
	education	541	66.8	66.8	100.0
	Total	810	100.0	100.0	

Table A4.26: Flexibility against respondent's motives

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		10	1.2	1.2	1.2
	never	370	45.7	45.7	46.9
	rarely	301	37.2	37.2	84.1
	frequently	129	15.9	15.9	100.0
	Total	810	100.0	100.0	

Table A4.27: Source of money for buying most assets

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		115	14.2	14.2	14.2
	saving	84	10.4	10.4	24.6
	non saving	156	19.3	19.3	43.8
	both saving and non saving	455	56.2	56.2	100.0
	Total	810	100.0	100.0	

Table A4.28: Financial literacy by respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		11	1.4	1.4	1.4
	medium	23	2.8	2.8	4.2
	low	133	16.4	16.4	20.6
	none	643	79.4	79.4	100.0
	Total	810	100.0	100.0	

Table A4.29: Proportion of selected assets owned by respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.08	5	.6	.7	.7
	.08	1	.1	.1	.9
	.08	4	.5	.6	1.4
	.17	40	4.9	5.7	7.1
	.17	1	.1	.1	7.2
	.17	2	.2	.3	7.5
	.25	106	13.1	15.1	22.6
	.33	110	13.6	15.6	38.2
	.33	3	.4	.4	38.6
	.42	1	.1	.1	38.8
	.42	112	13.8	15.9	54.7
	.50	121	14.9	17.2	71.9
	.53	2	.2	.3	72.2
	.58	63	7.8	8.9	81.1
	.63	1	.1	.1	81.3
	.66	7	.9	1.0	82.2
	.67	34	4.2	4.8	87.1
	.67	2	.2	.3	87.4
	.75	50	6.2	7.1	94.5
	.83	19	2.3	2.7	97.2
	.83	1	.1	.1	97.3
	.92	2	.2	.3	97.6
	.92	13	1.6	1.8	99.4
	1.00	4	.5	.6	100.0
	Total	704	86.9	100.0	
Missing	System	106	13.1		
Total		810	100.0		

Table A4.30: Chi-square test for dominant category of saving motives

category	Observed N	Expected N	Residual
1-poverty reduction motives	600	401.0	199.0
2-Non poverty reduction motives	202	401.0	-199.0
Total	802		

Table A4.31: Chi-square test for dominant model of household behaviour

Model	Observed N	Expected N	Residual
1-Life-cycle	692	269.0	423.0
2-Dynast	110	269.0	-159.0
3-Altruism	5	269.0	-264.0
Total	807		

Table A4.32: Chi-square test for bequest recipients

bequest recipients	Observed N	Expected N	Residual
1-All children	637	133.7	503.3
2.first born	109	133.7	-24.7
3.children close to parents	7	133.7	-126.7
4.all relatives	42	133.7	-91.7
5.any person close	5	133.7	-128.7
6.vulnerable persons	2	133.7	-131.7
Total	802		

Table A4.33: Chi-square test for flexibility on saving motives

Flexibility on saving motives	Observed N	Expected N	Residual
1.never	370	266.7	103.3
2.rarely	301	266.7	34.3
3.frequently	129	266.7	-137.7
Total	800		

Table A4.34: Chi-square test for time for bequest distribution

Time for bequest distribution	Observed N	Expected N	Residual
1.before death	95	394.0	-299.0
2.after death	693	394.0	299.0
Total	788		

Table A4.35: Chi-Square test for the first household saving motive

saving motive	Observed N	Expected N	Residual
1.retirement	26	67.1	-41.1
2.extra living costs	14	67.1	-53.1
3.precaution	75	67.1	7.9
4.education	412	67.1	344.9
5.marriage	6	67.1	-61.1
6.house/land	126	67.1	58.9
7.assets	57	67.1	-10.1
8.leisure/entertainment	4	67.1	-63.1
9.taxes or loan repayment	4	67.1	-63.1
10.business	72	67.1	4.9
11.non-specific	2	67.1	-65.1
12.bequests	7	67.1	-60.1
Total	805		

Table A4.36: Test Statistics

	Chi-square test for dominant category of saving motives	Chi-square test for dominant model of household behaviour	Chi-square test for bequest recipients	Chi-square test for flexibility on saving motives	Chi-square test for time for bequest distribution	Chi-Square test for the first household saving motive
Chi-Square(a, b,c,d,e,f)	197.511	1018.238	2336.344	115.533	453.812	2186.369
df	1	2	5	2	1	11
Asymp. Sig.	.000	.000	.000	.000	.000	.000

a 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 401.0.
b 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 269.0.
c 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 133.7.
d 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 266.7.
e 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 394.0.
f 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 67.1.

Table A4.37: Ranking saving motives preferences by sex and age

Saving Motive	Sex		Age	
	Men	Women	Young	Old
Retirement				2
Extra living cost	4	5		7
Illness , disaster (precautionary)	2	2	2	1
Education	1	1	1	
Marriage	7	7	3	8
House & land				3
Assets (durable items)				5
Leisure & entertainment	8	9	5	11
Taxes & loan repayment	5	4		6
Business	3	3		4
Non specific		8	4	10
Bequests	6	6		4

Table A4.38: Sex of a respondent * Where do you keep saving Crosstabulation

		Where do you keep saving				Total
		Home	Bank	Saccos		
Sex of a respondent	Male	176	243	1	4	424
	Female	166	219	0	1	386
Total		342	462	1	5	810

Table A4.39: Sex of a respondent * Why keeping saving at home Crosstabulation

		Why keeping saving at home				Total
		No bureaucracy in terms of procedures	safety reasons	small amount		
Sex of a respondent	Male	59	2	114	249	424
	Female	62	0	101	223	386
Total		121	2	215	472	810

Table A4.40: Sex of a respondent * Why keeping saving with bank or saccos Crosstabulation

		Why keeping saving with bank or saccos			Total
		safety	combination		
Sex of a respondent	Male	228	1	195	424
	Female	195	0	191	386
Total		423	1	386	810

Table A4.41: Sex of a respondent * What is your first saving motive Crosstabulation

		What is your first saving motive													Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Sex of a respondent	Male	17	41	1	5	7	31	214	4	76	21	3	2	2	424
	Female	9	31	1	2	7	44	198	2	50	36	1	2	3	386
Total		26	72	2	7	14	75	412	6	126	57	4	4	5	810

Table A4.42: Sex of a respondent * What is your second saving motive Crosstabulation

		What is your second saving motive											Total
		retirement	Business	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Sex of a respondent	Male	26	50	9	18	118	55	4	91	42	2	6	3	424
	Female	28	43	5	21	116	51	1	64	46	0	8	3	386
Total		54	93	14	39	234	106	5	155	88	2	14	6	810

Table A4.43: Sex of a respondent * What is your third saving motive Crosstabulation

		What is your third saving motive												Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	etsAssentertainment	Taxes or loan repayment		
Sex of a respondent	Male	77	61	0	8	25	82	42	4	44	54	1	23	3	424
	Female	67	62	1	8	19	81	29	0	53	44	2	17	3	386
Total		144	123	1	16	44	163	71	4	97	98	3	40	6	810

Table A4.44: Sex of a respondent * What is your fourth saving motive Crosstabulation

		What is your fourth saving motive													Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Sex of a respondent	Male	58	73	1	16	44	71	29	7	48	45	4	25	3	424
	Female	57	48	2	18	34	61	24	2	53	48	3	33	3	386
Total		115	121	3	34	78	132	53	9	101	93	7	58	6	810

Table A4.45: Sex of a respondent * What is your fifth saving motive Crosstabulation

		What is your fifth saving motive													Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Sex of a respondent	Male	61	66	4	31	33	60	20	8	47	42	0	48	4	424
	Female	59	63	4	20	32	40	16	4	56	53	3	33	3	386
Total		120	129	8	51	65	100	36	12	103	95	3	81	7	810

Table A4.46: Sex of a respondent * What is your sixth saving motive Crosstabulation

		What is your sixth saving motive													Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Sex of a respondent	Male	42	56	2	24	75	33	13	8	36	73	2	56	4	424
	Female	45	56	2	38	53	21	19	2	34	49	2	62	3	386
Total		87	112	4	62	128	54	32	10	70	122	4	118	7	810

Table A4.47: Sex of a respondent * What is your seventh saving motive Crosstabulation

		What is your seventh saving motive													Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Sex of a respondent	Male	43	46	1	47	77	15	20	12	39	49	1	70	4	424
	Female	40	41	2	43	73	8	14	7	41	42	3	68	4	386
Total		83	87	3	90	150	23	34	19	80	91	4	138	8	810

Table A4.48: Sex of a respondent * What is your eighth saving motive Crosstabulation

		What is your eigth saving motive													Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Sex of a respondent	Male	58	18	6	59	78	8	11	31	26	32	5	88	4	424
	Female	34	14	8	80	85	5	18	19	19	35	2	63	4	386
Total		92	32	14	139	163	13	29	50	45	67	7	151	8	810

Table A4.49: Sex of a respondent * What is your ninth saving motive Crosstabulation

		What is your ninth saving motive													Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Sex of a respondent	Male	19	7	31	133	44	1	6	66	6	39	7	61	4	424
	Female	30	12	41	99	52	3	9	47	8	17	8	56	4	386
Total		49	19	72	232	96	4	15	113	14	56	15	117	8	810

Table A4.50: Sex of a respondent * What is your tenth saving motive Crosstabulation

		What is your tenth saving motive													Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Sex of a respondent	Male	13	7	83	64	12	3	5	157	5	23	17	31	4	424
	Female	7	6	97	57	6	2	3	156	0	10	13	25	4	386
Total		20	13	180	121	18	5	8	313	5	33	30	56	8	810

Table A4.51: Sex of a respondent * What is your eleventh saving motive Crosstabulation

		What is your eleventh saving motive											Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Sex of a respondent	Male	3	1	201	17	4	1	111	3	0	71	7	5	424
	Female	6	4	168	6	3	1	129	3	2	53	7	4	386
Total		9	5	369	23	7	2	240	6	2	124	14	9	810

Table A4.52: Sex of a respondent * What is your twelveth saving motive Crosstabulation

		What is your twelveth saving motive									Total
		retirement	Non specific	Bequests	Extra living expenses	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Sex of a respondent	Male	2	87	6	1	9	1	0	310	2	6	424
	Female	1	58	6	1	11	2	1	297	4	5	386
Total		3	145	12	2	20	3	1	607	6	11	810

Table A4.53: Sex of a respondent * Respondent's priority motives category Crosstabulation

		Respondent's priority motives category			Total
		Livelihood motives	Non livelihood motives		
Sex of a respondent	Male	304	116	4	424
	Female	296	86	4	386
Total		600	202	8	810

Table A4.54: Sex of a respondent * Respondent's prefered saving model Crosstabulation

		Respondent's prefered saving model				Total
		Life cycle	Dynast	Altruism		
Sex of a respondent	Male	364	55	2	3	424
	Female	328	55	3	0	386
Total		692	110	5	3	810

Table A4.55: Sex of a respondent * Whom a respondent plan to give Bequests Crosstabulation

		Whom a respondent plan to give Bequests							Total
		All children	First born	Children close to parents	All relatives	any person close	Vulnerable persons		
Sex of a respondent	Male	330	56	3	26	3	2	4	424
	Female	307	53	4	16	2	0	4	386
Total		637	109	7	42	5	2	8	810

Table A4.56: Sex of a respondent * Type of bequests distributed Crosstabulation

		Type of bequests distributed			Total
		charities	combination/all		
Sex of a respondent	Male	1	407	16	424
	Female	0	371	15	386
Total		1	778	31	810

Table A4.57: Sex of a respondent * Actual bequests transfer period Crosstabulation

		Actual bequests transfer period			Total
		while still alive (inter vivos transfers)	after death (inter generational transfers)		
Sex of a respondent	Male	46	366	12	424
	Female	49	327	10	386
Total		95	693	22	810

Table A4.58: Sex of a respondent * Items given first priority for saving Crosstabulation

		Items given first priority for saving				Total	
		entertainment	inputs/enterprise	assets	education		
Sex of a respondent	Male	6	112	22	283	1	424
	Female	1	95	30	258	2	386
Total		7	207	52	541	3	810

Table A4.59: Sex of a respondent * Flexibility against repondent's motives Crosstabulation

		Flexibility against repondent's motives				Total
		never	rarely	frequently		
Sex of a respondent	Male	164	175	80	5	424
	Female	206	126	49	5	386
Total		370	301	129	10	810

Table A4.60: Sex of a respondent * Source of money for buying most assets Crosstabulation

		Source of money for buying most assets				Total
		saving	non saving	both saving and non saving		
Sex of a respondent	Male	50	64	252	58	424
	Female	34	92	203	57	386
Total		84	156	455	115	810

Table A4.61: Sex of a respondent * Financial literacy by respondent Crosstabulation

		Financial literacy by respondent				Total
		medium	low	none		
Sex of a respondent	Male	18	83	316	7	424
	Female	5	50	327	4	386
Total		23	133	643	11	810

Table A4.62: Age group of respondent * Where do you keep saving Crosstabulation

		Where do you keep saving				Total
		Home	Bank	Saccos		
Age group of respondent	young	322	423	1	5	751
	old	19	39	0	0	58
		1	0	0	0	1
Total		342	462	1	5	810

Table A4.63: Age group of respondent * Why keeping saving at home Crosstabulation

		Why keeping saving at home				Total
		No beuracracy in terms of procedures	safety reasons	small amount		
Age group of respondent	young	117	2	200	432	751
	old	4	0	14	40	58
		0	0	1	0	1
Total		121	2	215	472	810

Table A4.64: Age group of respondent * Why keeping saving with bank or saccos Crosstabulation

		Why keeping saving with bank or saccos			Total
		safety	combination		
Age group of respondent	young	384	1	366	751
	old	39	0	19	58
		0	0	1	1
Total		423	1	386	810

Table A4.65: Age group of respondent * What is your first saving motive Crosstabulation

		What is your first saving motive													Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Age group of respondent	young	16	65	2	1	14	60	399	6	119	57	4	4	4	751
	old	10	7	0	6	0	15	13	0	6	0	0	0	1	58
		0	0	0	0	0	0	0	0	1	0	0	0	0	1
Total		26	72	2	7	14	75	412	6	126	57	4	4	5	810

Table A4.66: Age group of respondent * What is your second saving motive Crosstabulation

		What is your second saving motive												Total
		retirement	Business	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Age group of respondent	young	46	92	5	37	220	95	5	145	85	2	14	5	751
	old	8	1	9	2	14	10	0	10	3	0	0	1	58
		0	0	0	0	0	1	0	0	0	0	0	0	1
Total		54	93	14	39	234	106	5	155	88	2	14	6	810

Table A4.67: Age group of respondent * What is your third saving motive Crosstabulation

		What is your third saving motive												Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Age group of respondent	young	130	114	1	9	44	150	66	4	89	96	3	40	5	751
	old	14	8	0	7	0	13	5	0	8	2	0	0	1	58
		0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total		144	123	1	16	44	163	71	4	97	98	3	40	6	810

Table A4.68: Age group of respondent * What is your fourth saving motive Crosstabulation

		What is your fourth saving motive												Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Age group of respondent	young	106	114	3	31	71	123	44	9	94	89	7	55	5	751
	old	9	7	0	3	7	8	9	0	7	4	0	3	1	58
		0	0	0	0	0	1	0	0	0	0	0	0	0	1
Total		115	121	3	34	78	132	53	9	101	93	7	58	6	810

Table A4.69: Age group of respondent * What is your fifth saving motive Crosstabulation

		What is your fifth saving motive													Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Age group of respondent	young	115	123	8	46	57	96	33	11	91	87	3	75	6	751
	old	5	6	0	5	7	4	3	1	12	8	0	6	1	58
		0	0	0	0	1	0	0	0	0	0	0	0	0	1
Total		120	129	8	51	65	100	36	12	103	95	3	81	7	810

Table A4.70: Age group of respondent * What is your sixth saving motive Crosstabulation

		What is your sixth saving motive													Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Age group of respondent	young	85	100	4	59	119	52	31	9	62	110	4	110	6	751
	old	2	12	0	3	9	2	1	1	8	12	0	7	1	58
		0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total		87	112	4	62	128	54	32	10	70	122	4	118	7	810

Table A4.71: Age group of respondent * What is your seventh saving motive Crosstabulation

		What is your seventh saving motive													Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Age group of respondent	young	81	77	3	84	145	22	28	18	76	81	3	126	7	751
	old	2	10	0	6	5	1	6	0	4	10	1	12	1	58
		0	0	0	0	0	0	0	1	0	0	0	0	0	1
Total		83	87	3	90	150	23	34	19	80	91	4	138	8	810

Table A4.72: Age group of respondent * What is your eighth saving motive Crosstabulation

		What is your eigth saving motive													Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Age group of respondent	young	88	29	14	135	144	13	24	48	44	57	7	141	7	751
	old	4	3	0	4	19	0	5	2	1	9	0	10	1	58
		0	0	0	0	0	0	0	0	0	1	0	0	0	1
Total		92	32	14	139	163	13	29	50	45	67	7	151	8	810

Table A4.73: Age group of respondent * What is your ninth saving motive Crosstabulation

		What is your ninth saving motive													Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Age group of respondent	young	46	15	67	223	88	4	11	109	14	51	15	101	7	751
	old	3	4	5	8	8	0	4	4	0	5	0	16	1	58
		0	0	0	1	0	0	0	0	0	0	0	0	0	1
Total		49	19	72	232	96	4	15	113	14	56	15	117	8	810

Table A4.74: Age group of respondent * What is your tenth saving motive Crosstabulation

		What is your tenth saving motive													Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Illness or precaution	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Age group of respondent	young	19	13	168	116	18	5	7	280	5	30	29	54	7	751
	old	0	0	12	5	0	0	1	33	0	3	1	2	1	58
		1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total		20	13	180	121	18	5	8	313	5	33	30	56	8	810

Table A4.75: Age group of respondent * What is your eleventh saving motive Crosstabulation

		What is your eleventh saving motive												Total
		retirement	Business	Non specific	Bequests	Extra living expenses	Education	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Age group of respondent	young	8	5	332	22	7	2	225	6	2	121	13	8	751
	old	1	0	36	1	0	0	15	0	0	3	1	1	58
		0	0	1	0	0	0	0	0	0	0	0	0	1
Total		9	5	369	23	7	2	240	6	2	124	14	9	810

Table A4.76: Age group of respondent * What is your twelveth saving motive Crosstabulation

		What is your twelveth saving motive										Total
		retirement	Non specific	Bequests	Extra living expenses	Marriage	House / land	Assets	Leisure & entertainment	Taxes or loan repayment		
Age group of respondent	young	3	142	12	2	19	3	1	554	5	10	751
	old	0	3	0	0	1	0	0	52	1	1	58
		0	0	0	0	0	0	0	1	0	0	1
Total		3	145	12	2	20	3	1	607	6	11	810

Table A4.77: Age group of respondent * Respondent's priority motives category Crosstabulation

		Respondent's priority motives category			Total
		pro- poverty reduction motives	non pro - poverty reduction motives		
Age group of respondent	young	552	192	7	751
	old	48	9	1	58
		0	1	0	1
Total		600	202	8	810

Table A4.78: Age group of respondent * Respondent's prefered saving model Crosstabulation

		Respondent's prefered saving model				Total
		Life cycle	Dynast	Altruism		
Age group of respondent	young	676	67	5	3	751
	old	15	43	0	0	58
		1	0	0	0	1
Total		692	110	5	3	810

Table A4.79: Age group of respondent * Whom a respondent plan to give Bequests Crosstabulation

		Whom a respondent plan to give Bequests							Total
		All children	First born	Children close to parents	All relatives	any person close	Vulnerable persons		
Age group of respondent	young	580	108	7	41	5	2	8	751
	old	56	1	0	1	0	0	0	58
		1	0	0	0	0	0	0	1
Total		637	109	7	42	5	2	8	810

Table A4.80: Age group of respondent * Type of bequests distributed Crosstabulation

		Type of bequests distributed			Total
		charities	combination/all		
Age group of respondent	young	0	721	30	751
	old	1	56	1	58
		0	1	0	1
Total		1	778	31	810

Table A4.81: Age group of respondent * Actual bequests transfer period Crosstabulation

		Actual bequests transfer period			Total
		while still alive (inter vivos transfers)	after death (inter generational transfers)		
Age group of respondent	young	95	634	22	751
	old	0	58	0	58
		0	1	0	1
Total		95	693	22	810

Table A4.82: Age group of respondent * Items given first priority for saving Crosstabulation

		Items given first priority for saving					Total
		entertainment	inputs/enterprise	assets	education		
Age group of respondent	young	7	185	52	504	3	751
	old	0	22	0	36	0	58
		0	0	0	1	0	1
Total		7	207	52	541	3	810

Table A4.83: Age group of respondent * Flexibility against respondent's motives Cross tabulation

		Flexibility against respondents' motives				Total
		never	rarely	frequently		
Age group of respondent	young	366	267	109	9	751
	old	3	34	20	1	58
		1	0	0	0	1
Total		370	301	129	10	810

Table A4.84: Age group of respondent * Source of money for buying most assets Crosstabulation

		Source of money for buying most assets				Total
		saving	non saving	both saving and non saving		
Age group of respondent	young	81	150	407	113	751
	old	3	5	48	2	58
		0	1	0	0	1
Total		84	156	455	115	810

Table A4.85: Age group of respondent * Financial literacy by respondent Crosstabulation

		Financial literacy by respondent				Total
		medium	low	none		
Age group of respondent	young	21	113	606	11	751
	old	2	20	36	0	58
		0	0	1	0	1
Total		23	133	643	11	810

Appendix 5: Questionnaire Coding for SPSS

No	Code	Description	Responses	Measure
1	SEX	Sex of a respondent	1=male; 2= female	Nominal
2	AGE	Age of a respondent	Numeric	Scale
3	AGEGRP	Age group of respondent	1=young; 2=old	Nominal
4	EDU	Education level of a respondent	1=primary school; 2=secondary school; 3=college; 4=university; 5=none	Nominal
5	MARITAL	Marital status of a respondent	1=married; 2=single; 3=widow; 4=divorced; 5=separated	Nominal
6	DEPEND	Respondent's number of dependants	Numeric	Scale
7	JOB	Occupation of a respondent	1=farming; 2=employment; 3=off farm; 4=combination	Nominal
8	INCOME	Respondent's monthly income estimate	Numeric	Scale
9	SAVSTORE	Where do you keep saving	1=home; 2=bank; 3=saccos; 4=others	Nominal
10	SAVHOME	Why keeping saving at home		Nominal
11	SAVBSACO	Why keeping saving with bank or SACCOS		Nominal
12	MOTIVE1	What is your first saving motive	1=retirement; 2=extra living expenses; 3=illness; 4=education; 5=marriage; 6=house/land; 7=assets; 8=leisure; 9=taxes/loans; 10=business; 11=non specific; 12=bequest; 13=others	Nominal
13	MOTIVE2	What is your second saving motive	1=retirement; 2=extra living expenses; 3=illness; 4=education; 5=marriage; 6=house/land; 7=assets; 8=leisure; 9=taxes/loans; 10=business; 11=non specific; 12=bequest; 13=others	Nominal
14	MOTIVE3	What is your third saving	1=retirement; 2=extra living	Nominal

		motive	expenses; 3=illness; 4=education; 5=marriage; 6=house/land; 7=assets; 8=leisure; 9=taxes/loans; 10=business; 11=non specific; 12=bequest; 13=others	
15	MOTIVE4	What is your fourth saving motive	1=retirement; 2=extra living expenses; 3=illness; 4=education; 5=marriage; 6=house/land; 7=assets; 8=leisure; 9=taxes/loans; 10=business; 11=non specific; 12=bequest; 13=others	Nominal
16	MOTIVE5	What is your fifth saving motive	1=retirement; 2=extra living expenses; 3=illness; 4=education; 5=marriage; 6=house/land; 7=assets; 8=leisure; 9=taxes/loans; 10=business; 11=non specific; 12=bequest; 13=others	Nominal
17	MOTIVE6	What is your sixth saving motive	1=retirement; 2=extra living expenses; 3=illness; 4=education; 5=marriage; 6=house/land; 7=assets; 8=leisure; 9=taxes/loans;10=business; 11=non specific; 12=bequest; 13=others	Nominal
18	MOTIVE7	What is your seventh saving motive	1=retirement; 2=extra living expenses; 3=illness; 4=education; 5=marriage; 6=house/land; 7=assets; 8=leisure; 9=taxes/loans; 10=business; 11=non specific; 12=bequest; 13=others	Nominal
19	MOTIVE8	What is your eighth saving motive	1=retirement; 2=extra living expenses; 3=illness; 4=education; 5=marriage; 6=house/land; 7=assets; 8=leisure; 9=taxes/loans; 10=business; 11=non specific; 12=bequest; 13=others	Nominal
20	MOTIVE9	What is your ninth	1=retirement; 2=extra living	Nominal

		saving motive	expenses; 3=illness; 4=education; 5=marriage; 6=house/land; 7=assets; 8=leisure; 9=taxes/loans; 10=business; 11=non specific; 12=bequest; 13=others	
21	MOTIVE10	What is your tenth saving motive	1=retirement; 2=extra living expenses; 3=illness; 4=education; 5=marriage; 6=house/land; 7=assets; 8=leisure; 9=taxes/loans; 10=business; 11=non specific; 12=bequest; 13=others	Nominal
22	MOTIVE11	What is your eleventh saving motive	1=retirement; 2=extra living expenses; 3=illness; 4=education; 5=marriage; 6=house/land; 7=assets; 8=leisure; 9=taxes/loans; 10=business; 11=non specific; 12=bequest; 13=others	Nominal
23	MOTIVE12	What is your twelfth saving motive	1=retirement; 2=extra living expenses; 3=illness; 4=education; 5=marriage; 6=house/land; 7=assets; 8=leisure; 9=taxes/loans; 10=business; 11=non specific; 12=bequest; 13=others	Nominal
24	POVERTY	Respondent's priority motives category	1=livelihood motives; 2=non livelihood motives	Nominal
25	MODEL	Respondent's preferred saving model	1=lifecycle; 2=dynast; 3=altruism	Nominal
26	RECEIV	Whom a respondent plan to give Bequests	1=all children; 2=first born; 3=children close to parents; 4=all relatives; 5=any person closer; 6=vulnerable persons (disabled, sick, widows, orphans); 7=institutions; 8=combination	Nominal
27	BEQST	Type of bequests distributed	1=social support e.g. health, education, food, marriage etc; 2=economic support e.g. investments, finance capital, inputs etc; 3=assets e.g.	Nominal

			house, car, land, household items etc; 4=charities	
28	BTIME	Actual bequests transfer period	1=while still alive (inter vivos transfers); 2=after death (inter generational transfers); 3=both while still alive and after death; 4=none	Nominal
29	PRIORI	Items given first priority for saving	1=entertainment; 2=inputs/enterprises; 3=assets; 4=education; 5=others	Nominal
30	MCHANGE	Flexibility against respondent's motives	1=never; 2=rarely; 3=frequently	Nominal
31	MASSET	Source of money for buying most assets	1=saving; 2=non saving; 3=both saving and non saving	Nominal
32	FINANCE	Financial literacy by respondent	1=high; 2=medium; 3=low; 4=none	Nominal
33	FOLIO	Proportion of selected assets owned by respondent	Numeric	Scale

Appendix 6: Local Authorities Permission Letters

HALMASHAURI YA WILAYA YA MUFINDI
(Barua zote zitumwe kwa Mkurugenzi Mtendaji Wilaya)

S.L.Posta 223,
SIMU: 026-2772614
FAX: 026-2772070
Email: dedmufindi@mail.com

Kumb.Na.HW/MUF/S.50/42 IV/202 09/09/2011

AFISA MTENDAJI WA KATA,
KATA YA BOMA .

YAH: KUMTAMBULISHA NDUGU ISAACK MICHAEL MCHUMI

Tafadhalli husika na kichwa cha habari hapo juu.

Mtajwa ni Mwanafunzi wa Chuo Kikuu Huria cha Tanzania (OUT) ambaye amepewa kibali na Mkurugenzi Mtendaji Wilaya cha kufanya utafiti kukusanya **"Data"** zinahusu **"A cross Sectional Survey on Householders Serving Motives in Tanzania"** hapa katika Wilaya yetu. Katika kukamilisha zoezi hilo atashirikiana na **Ndugu Stanley Melack.**

Kwa barua hii, tafadhali mpe ushirikiano unaostahili ili aweze kukamilisha utafiti huo. Aidha wahusika lazima waoneshe vitambulisho.

Nakutakia kazi njema

Bavu S.
KNY MKURUGENZI MTENDAJI WILAYA
MUFINDI
K.N.Y. MKURUGENZI MTENDAJI (W
HALMASHAURI YA WILAYA MUFINDI

Nakala: **Ndugu Isaack M. Mchumi.**

KILWA DISTICT COUNCL

TEL. No. 023 – 2013065
Fax. No. 023 _ 2013065

OFISI YA MKURUGENZI MTENDAJI
P.O. BOX 160,
KILWA – MASOKO

Ref: No. KDC/E.10/207/VOL.II-49 16 Agosti,2011

ISAACK M.MCHUMI,
S.L.P 61659
DAR ES SALAAM.

YAH:KIBALI CHA KUFANYA UTAFITI

Somo tajwa hapo juu la husika

Napenda kukutaarifu kuwa maombi yako ya kufanya utafiti kwa ajili ya masomo yako ya PHD yamekubaliwa.

Aidha utakafanya mazoezi kwa masharti yafuatayo.

1.Kazi hiyo isichukuliwe kama ajira ya kudumu.

2.Halmashauri haitahusika na malipo yoyote yale kama mshahara,posho kwa mwezi na sikumzote utakazokuwa unafanya utafiti.

3.Kufuata masharti yote yatakayotolewa na wadau wako walipo katika idara husika unayofanyia kazi.

4.Kushirikiana na watumishi ambao utakutana nao katika utendaji wako wa kazi.

Nakutakia kazi njema

Gaundensia Mboya
KNY:MKURUGENZI MTENDAJI
HALMASHAURI YA WILAYA
KILWA

Kny MKURUGENZI MTENDAJI
HALMASHAURI YA WILAYA
KILWA